FEB 26 1912

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Rock Products

DEVOTED TO

Concrete and Manufactured Building Materials

Volume XI. CHICAGO, ILL, FEBRUARY 22, 1912. Number 8.

CAROLINA PORTLAND CEMENT COMPANY

We are the largest distributers of Portland Cement, Lime Plaster, Fire-brick and General Building Material in the Southern States, and have stocks of Standard Brands at all of the Atlantic and Gulf Seaports, and at our interior mills and warehouses, for prompt and economical distribution to all Southern territory. Write for our delivered prices anywhere. Also Southern agents for the "Dehydratine's" waterproofing material. "Universal," "Acme" and "Electroid" Brands Ready Roofing. Get our prices.

Charleston, S. C. Birmingham, Ala. Atlanta, Ga. New Orleans, La

DEXTER Portland Cement THE NEW STANDARD

Sole Agents SAMUEL H. FRENCH & CO. Philadelphia

UNION MINING COMPANY

Manufacturers of the Celebrated

MOUNT SAVAGE FIRE BRICK

GOVERNMENT STANDARD

DEVOTE a special department to the manufacture of Brick particularly adapted both physically and chemically to

Lime Kiln and Cement Kiln Construction

Large stock carried. Prompt shipments made. Write for quotations on Standard and Special shapes, to

UNION MINING CO.,
Mount Savage, Md.

CAPACITY, 60,000 PER DAY. ESTABLISHED 1841.

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FOR GRIFFIN TUBE AND BALL MILLS

CHICAGO BELTING CO.

PURE OAK TANNED LEATHER BELTING

Send for Our Illustrated Catalog

111 North Green St., CHICAGO

FOR DAMP PLACES

Branches: NEW YORK PHILADELPHIA NEW ORLEANS PORTLAND, OREGON

Rock Products

will issue a daily paper ***Every day*** during the Chicago and Kansas City cement shows. Call at our booth and get a copy and register your name.

Phoenix Portland Cement UNEXCELLED FOR ALL USES.

Manufactured by

PHOENIX PORTLAND CEMENT CO.

NAZARETH, PA.

Sole Selling Agent, WILLIAM G. HARTRANFT CEMENT CO
Real Estate Trust Building, PHILADELPHIA, PENNSYLVANIA.

Ottawa Silica Co.'s Washed White Flint Sand

Is used for sawing stone in more than a dozen states. Cuts more and lasts longer than any other sand on the market. Unexcelled for Roofing, Facing Cement Blocks, White Plaster, etc. Freight rates and prices on application.

OTTAWA SILICA CO., Ottawa, Ill.

The Ironton Portland Cement Co.

Manufacturers of the

Celebrated Limestone Brand of Portland Cement

Used by the Railroads in Kentucky, Ohio, West Virginia, and Virginia during the past five years.

Cement as finely ground as any on the market.

Guaranteed to pass all the standard specifications.

Plant located at Ironton, O., within easy access to seven States, namely, Ohio, Indiana, Kentucky, West Virginia, Virginia, Tennessee and North Carolina.

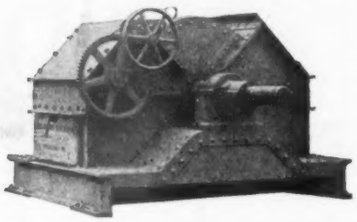
Shipments via the N. & W. Ry., C. & O. Ry., C. H. & D. Ry., D. T. & I. Ry., or Ohio River.

Write for Prices

The Ironton Portland Cement Co.

Ironton, Ohio

"PENNSYLVANIA" HAMMER CRUSHERS



For Pulverizing Limestone, Lime, Cement Rock, Marl, Shale, Etc.

Main Frame of steel, "Ball and Socket" Self aligning Bearings; forged Steel Shaft; Steel Wear Liners; Cage adjustable by hand wheel while Crusher is running.

No other hammer Crusher has such a big Safety Factor.

PENNSYLVANIA CRUSHER CO.

Philadelphia

New York Pittsburgh

MILLS

Montreal	Port Colborne
Hull	Shallow Lake
Belleville	Maribank
Lakefield	Winnipeg
Calgary	Exshaw

For Prices Any Where in CANADA

Write or Wire Our Nearest Sales Office

Canada Cement Company LIMITED

Montreal - Toronto

Winnipeg - Calgary

THE DEALER WANTS THE BEST

advertising to create a demand for his goods, shipping facilities to be able to deliver on time, and quality to satisfy his customers and so create a further demand.

Quality and Quantity

Shipping Facilities

place **Lehigh Portland Cement** in the forefront and make it the dealer's logical choice.

Write today for our bulletin that tells how we cooperate with you

LEHIGH PORTLAND CEMENT CO.

CHICAGO, ILL. ALLENTOWN, PENNA.

ONE GRADE—ONE BRAND

Alpha Portland Cement

Best in the World for Sidewalks

Write for our Handsomely Illustrated Book. Sent Free.

General Offices: No. 7 Center Square, EASTON, PA.

SALES OFFICES:

The Oliver Bldg., PITTSBURGH.
Builders Exchange, BALTIMORE.
Marquette Building, CHICAGO.
Harrison Building, PHILADELPHIA.
Builders Exchange, BUFFALO.
Board of Trade Bldg., BOSTON.
Hudson Terminal Bldg., N. Y.
Nat'l Bank Bldg., SAVANNAH, GA.

"THE BEST IS NONE TOO GOOD"

HIGHEST GRADE of Portland Cement

Every Barrel Absolutely Uniform.

R. R. facilities especially adapted for prompt shipments in the northwest.

Capacity 1,500,000 bbls. Yearly.

NORTHWESTERN STATES PORTLAND CEMENT COMPANY

MASON CITY, IOWA

"WOLVERINE"

The Alright Cement

MADE RIGHT SOLD RIGHT
WORKS RIGHT
WEARS RIGHT

The Best is None Too Good For You. Insist Upon

"WOLVERINE"

Write for Booklet and Quotations.

Factories at Coldwater and Quincy, Mich. Capacity 3500 Daily.

WOLVERINE PORTLAND CEMENT COMPANY

W. E. COBEAN, Sales Agent, Coldwater, Michigan

Main Office, Coldwater, Mich.

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Rock Products

DEVOTED TO

Concrete and Manufactured Building Materials

Volume XI | CHICAGO, ILL., FEBRUARY 22, 1912 | Number 8

WATERPROOFING CONCRETE WITH OIL

Director Page of the Office of Public Roads Gives the Results of a Number of Interesting and Convincing Experiments With These Materials.

Director Page of the Office of Public Roads is a most active influence in the effort to secure the most substantial and permanent form of road making and to make use of the materials most accessible and economical in character. Recently he gave this question some careful consideration before the Indiana Engineering Society at Indianapolis and we are giving our readers his deductions, accompanied by illustrations emphasizing his remarks:

There is perhaps no constructional material of present-day use with more universal adaptation to a great variety of structures, than Portland cement concrete. In most instances where the design has not been at fault this material has given eminent satisfaction. Concrete, however, does not always serve the purpose for which it was intended. It has many virtues, but its still unconquered faults continually assert themselves. Construction cracks, due to atmospheric temperature changes, to the heating and subsequent cooling of the mass while hardening and to the drying out of the water, are apparent in many concrete constructions. Then again concrete is not as impermeable and non-absorbent a material as is desirable in a great many structures.

Much experimentation has demonstrated the possibilities of the proper grading of the aggregate towards securing impermeability by increasing the density of the mass. More or less benefit has likewise been secured through the void filling effect of finely divided powders, and various patented processes.

The possibilities of residual mineral oil as a waterproofing agent were discovered by the writer in October, 1909, in the laboratories of the Office of Public Roads. He found that when mineral oil was added to Portland cement paste it disappeared after mixing for a few moments, due to the emulsifying effect on the lime in the cement. The cement thus treated set quite readily and without any accompanying separation of the oil. It was noted that the behavior of water on the surface of oil-mixed mortar was quite different from its action on plain mortars. Its absorption by the oil-mixed mortar appeared to be extremely small or nothing, while it was quite greedily drunk by the plain mortar.

The addition to concrete of a greasy, inert substance like oil, possessing no inherent cementitious properties, with the intention of benefiting the mixture, was a startling radical departure from accepted engineering practice, and it was therefore determined to investigate as many of the properties of the material as limited time and facilities would allow.

If oil was beneficial as a waterproofer, was it at the same time promotive of serious weakness? Would the elasticity and toughness of the concrete be greatly different from those properties in ordinary concrete? What was the most effective type of oil to use? These were some of the questions to be solved and the following tests were started in the laboratory to determine the most important properties of oil-mixer mortar and concrete:

1. Absorption.
2. Permeability.
3. Tensile Strength.
4. Compressive Strength.
5. Time of Setting.
6. Resistance of Impact.
7. Bond Tests.
8. Modulus of Electricity.

Materials:

The materials used in the various tests were Portland cement passing the specifications of the American Society for Testing Materials, clean river sand well graded from ¼ inch down and ¾ inch crusher run gneiss of a rather poor quality. Gravel concrete specimens were likewise made. Various oils were used and the following specifications are believed to be those which, according to the tests, best describe the most effective type of oil to use in concrete mixtures:

FIG. 1—COMPARATIVE ABSORPTION TEST OF PLAIN 1:3 MORTAR AND OIL-MIXED 1:3 MORTAR.

FIG. 2—WATERPROOFING U. S. TREASURY VAULTS WITH OILED MIXED CONCRETE.

Specifications.

For Fluid Residual Petroleum.

To Be Used in Portland Cement Concrete.

(1) The oil shall have a specific gravity of not less than .930 nor greater than .940 at a temperature of 25 degrees C.

(2) It shall be soluble in carbon disulphide at air temperature to at least 99.9 per cent.

(3) It shall contain not less than one and one-half (1.5) nor more than two and one-half (2.5) per cent of bitumen insoluble in 86 degrees B. paraffin naphtha.

(4) It shall yield not less than two and one-half (2.5) nor more than four (4) per cent of residual coke.

(5) When two hundred and forty (240) cc. of the material is heated in an Engler Viscosimeter to 50 degrees C. and maintained at that temperature for at least three (3) minutes, the first one hundred (100) cc. which flows out shall show a specific viscosity of not less than forty (40) nor more than forty-five (45).

(6) When twenty (20) grams of the material are heated for five (5) hours in a cylindrical tin dish two and one-half (2½) inches in diameter by one (1) inch in height, at a constant temperature of 163 degrees C., the loss in weight shall not exceed two (2) per cent.

Method of Mixing Oil with Concrete.

For making oil-mixed mortar, the following method of mixing has been found to produce a uniform product: The cement and sand are mixed together dry until of uniform color. Water is then added and the mass turned until sufficiently mixed. The consistency of the mortar should be "medium wet" or "mushy." The desired quantity of oil is then added to the mortar and the mass turned until the oil is thoroughly incorporated in the mixture. Should a concrete mixture be desired, the oil-mixed mortar is simply combined with the previously moistened coarse aggregate, and mixed until the stones are thoroughly coated with mortar.

(Continued on page 66)

The Giant Griffin Mill

TAKES Clinker Kiln Size.
GIVES A Finished Cement Ready to Sack.

Capacity

Minimum, 12 bbls. Maximum, 17 bbls. Per Hour.

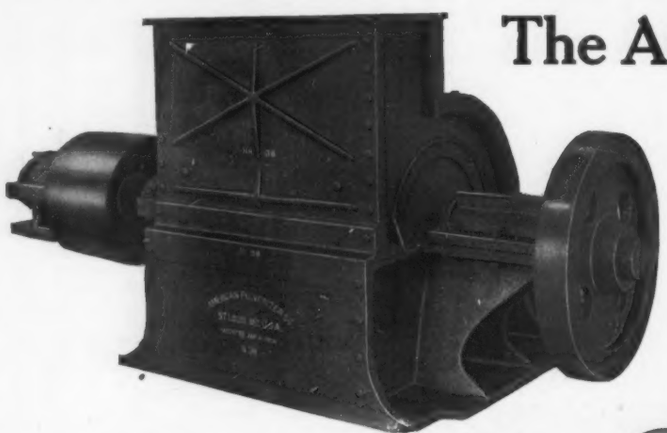
Power

From 60 to 65 H. P. Operates Mill at Full Capacity

Upkeep under 1 Cent per bbl.

THINK IT OVER

Bradley Pulverizer Co.
BOSTON, MASS.



The American Ring Pulverizer

proves merits, that others imitate

The following results can be duplicated:

American Pulverizer Co., St. Louis, Mo. Fletcher, N. C., Jan. 10, 1912.

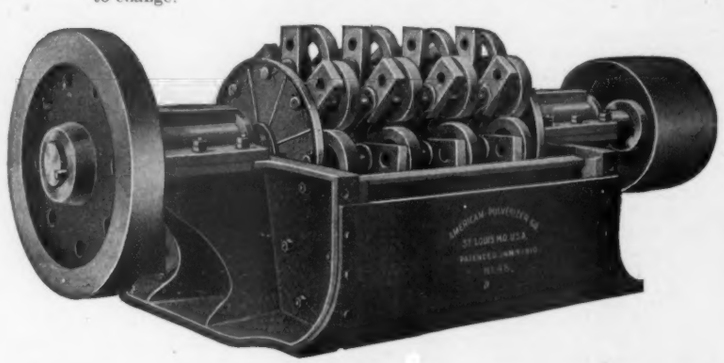
Gentlemen: We have very recently made a thorough inspection of the No. 15 Pulverizer bought of you over 18 months ago. During that period this Machine has produced several thousand tons of ground limestone. Although our rock is quite hard, your Pulverizer has withstood this severe duty admirably. It is fed with broken stone running from four inches downward. A very large part of the resulting product will pass a 60 mesh screen.

At this time we are using our second set of rings and they are good for months of hard service. The original set of rings are by no means worn out and we will put them back in the machine when it becomes advisable to change.

The openings in the bars running at right angles to the rings are just the thing. Like the rings, it is practically impossible to break one of these bars. Slugs of iron two inches thick have gone into this machine without the slightest damage to any of its parts.

Despite the continued heavy work performed by the pulverizer, we have never had a hot shaft, and it has never been necessary to rebabbit the shaft bearings.

It is a pleasure to us to give our unqualified commendation of the **American Pulverizer.** Wishing you much success. Yours truly,
BLUE RIDGE LIME CO.



Does better work, more work and at a cost that others cannot duplicate. Machines guaranteed. Send for circular. It will tell you

WHY!

American Pulverizer Co., 410 Jaccard Building, St. Louis, Mo.

"Forgot to Oil It—"

The oft-repeated story of the man whose plant is out of order. Don't rely on memory, and you'll avoid expensive shut-downs. In the Symons Breaker, lubrication is automatic. The oil pump's memory never fails. Read the rest.

There Is Only One Crusher with an *Automatic* Oiling System

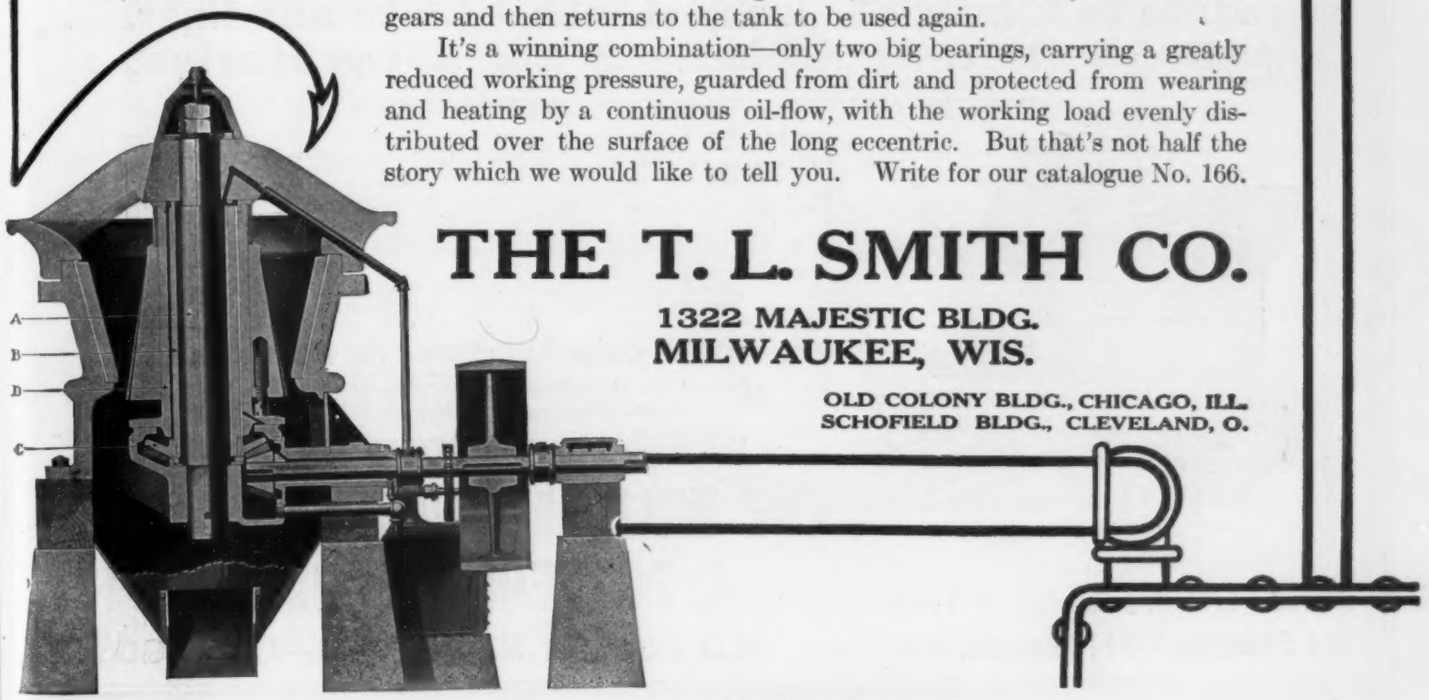
The Crusher's Life Blood is Oil.

Rock breakers work under most trying conditions, continually enveloped in a cloud of dust. It is very difficult, even with the "tightest fit," to exclude dirt from the running parts. The bearings are subject to immense pressures, very irregularly applied. When you add to these unfavorable conditions the further danger of careless supervision, any mechanic will admit the vital importance, to the practical quarryman, of the automatic oiling system peculiar to the

SYMONS CRUSHER

The oil pressure excludes the dirt. Where oil cannot get out, dirt cannot get in. The steady flow of oil (volume variable to suit conditions) washes the bearings clean, smooth and cool, immerses the gears and then returns to the tank to be used again.

It's a winning combination—only two big bearings, carrying a greatly reduced working pressure, guarded from dirt and protected from wearing and heating by a continuous oil-flow, with the working load evenly distributed over the surface of the long eccentric. But that's not half the story which we would like to tell you. Write for our catalogue No. 166.

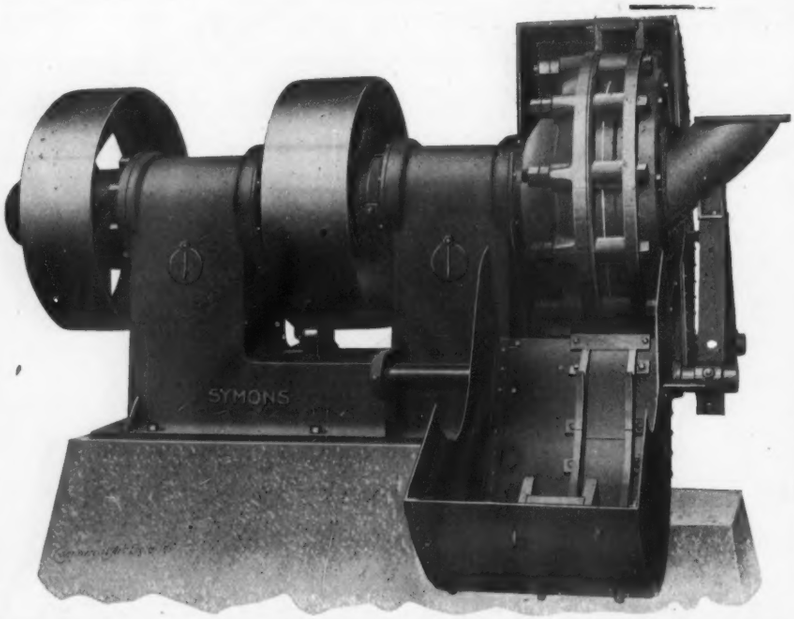


THE T. L. SMITH CO.

1322 MAJESTIC BLDG.
MILWAUKEE, WIS.

OLD COLONY BLDG., CHICAGO, ILL.
SCHOFIELD BLDG., CLEVELAND, O.

THE SYMONS DISC CRUSHER



FOR CRUSHING

Rejections from large Breakers, or Gravel Boulders to ANY SIZE between 2½-inch and ⅜-inch, this modern machine is without a rival.

Double the capacity of any other.

Manganese equipped — Simple — Exceptionally durable.

The Disc Crushers placed on the market in 1909 are now at work in up-to-date plants in all parts of the United States, as well as in Canada, Mexico, England, Australia, Spain, South America, etc. This world-wide recognition of their merit means it will pay you to investigate thoroughly if you need quantities of small sized product.

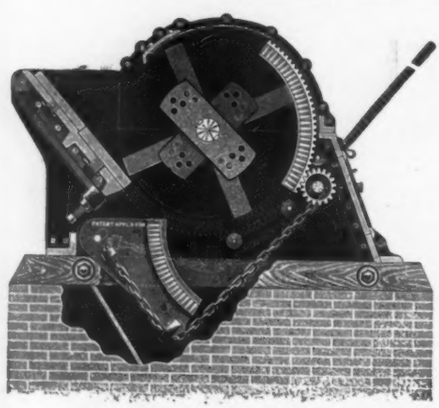
Address

SYMONS BROTHERS COMPANY, Majestic Building Milwaukee, Wis.

WILLIAMS JUMBO CRUSHER

Will take 12 to 14 in. cubes Limestone or Shale and reduce to 2 inch,—1½ inch,—1 inch,—¾ inch and finer.
1 No. 6 Recently Replaced 3 No. 5 Gyratories.

"MANUFACTURED AND LICENSED UNDER 87 SEPARATE AND DISTINCT PATENTS."



WITH DUMP CAGE OPEN.

Iola, Kansas, December 6th, 1910

Williams Patent Crusher & Pulverizer Co., St. Louis, Mo.

Gentlemen: Your No. 6 Jumbo Crusher recently installed by us is handling about 100 tons per hour of crushed limestone from a No. 8 Gyratory Crusher, the largest pieces of which will average six inch cubes.

The capacity of our elevator is 115 tons per hour and the machine easily overloads the elevator. We are now installing an elevator of double the CAPACITY FOR THIS CRUSHER. Your guarantee was fifty tons per hour from this machine.

Your crusher reduces all of our material to three-quarter inches and finer, and the majority to one-quarter inch.

We have been operating the machine about eight weeks and find same most satisfactory.

Yours very truly, THE IOLA PORTLAND CEMENT CO., F. L. WOODS, Supt.

MADE IN 8 SIZES—ALL PARTS ADJUSTABLE

Ask Iola Portland Cement Co., Texas Portland Cement Co., Southwestern Portland Cement Company,—or us. Write for Bulletin 12.

WE ALSO MAKE LIMESTONE GRINDERS

WORKS: 2701 N. Broadway, ST. LOUIS
SAN FRANCISCO, 347 Monadnock Bl'dg.

THE WILLIAMS PATENT CRUSHER & PULVERIZER COMPANY

OLD COLONY BL'DG.———CHICAGO

Raymond Pulverizers and Raymond Fans en Route to a Large Cement Company in Michigan

These 12 mills will grind 1440 Tons of hard Limestone every 24 hours —equivalent to 96 carloads of 30,000 lbs. each. Two years previous to this shipment, a single Raymond Mill was installed. That one mill brought the order for the 12 shown above. The

RAYMOND PULVERIZING AIR SEPARATING SYSTEM

is the one best method for grinding limestone and coal in Cement Mills.

No other mill grinds so fine nor so uniform. No other shows so great a saving in product. No other can be operated with so few men, nor with so little horse-power. Compared with any other method of grinding, the Raymond System of Grinding with Air Separation will show an average increase of 20% in the capacity of the kilns, by delivering to them a finer ground raw material and coal. With the Raymond System you need no preliminary crushers, no elevating or conveying machinery, no bolters, reels or screens. It saves all waste and tailings and allows no dust to escape to choke and poison the workmen. When adjusted to the desired degree of fineness, the Raymond Pulverizers will continue to deliver a product of the required mesh without further attention.

Our Engineers who specialize in the solution of grinding problems have shown enormous savings by the intelligent application of the Raymond System in Cement Plants all over the United States.

Every Raymond Mill is installed on a guarantee basis:—which means that it must do the definite work we claim for it or the equipment will be removed without expense to you.

Raymond Brothers Impact Pulverizer Co.

517 Laflin St., CHICAGO, ILL., U. S. A.

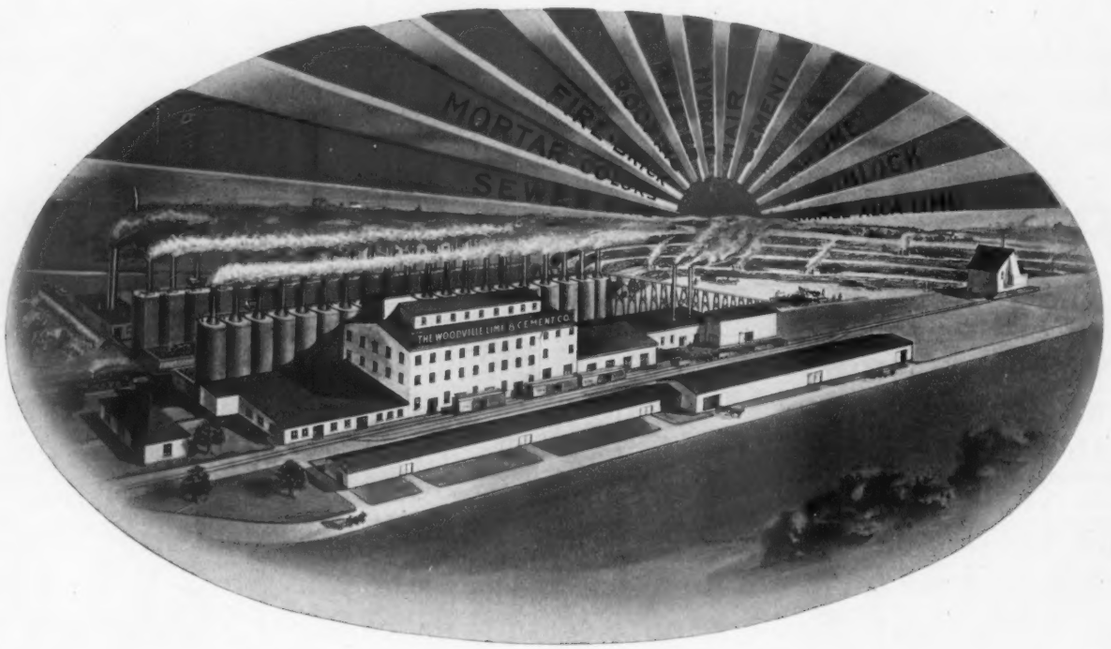
Designers of special machinery and methods for grinding, pulverizing and separating. Manufacturers of Automatic Pulverizers, Roller Mills, Vacuum Air and Screen Separators, Crushers, Special Exhaust Fans, Dust Collectors.

CUT OUT THIS REMINDER

To write to Raymond Bros. Impact Pulverizer Company, 517 Laflin St., Chicago: Dear Sirs, Please send us your Book "I" explaining your modern money-saving method of Pulverizing and Air Separation. (4)

THE WOODVILLE LIME & CEMENT CO.

Offices: TOLEDO, OHIO ═══ Factory: WOODVILLE, OHIO



"THE BEST UNDER THE SUN"

This NEW, FIREPROOF, ELECTRICALLY-DRIVEN Factory, of 40 kilns, is NOW IN FULL OPERATION, and we can ship promptly any orders for

White Enamel Finish
White Lily Finish
O. K. Masons' Hydrated Lime
O. K. Lump Lime
Enamel Alca Lime
Enamel Hard Wall Plasters

Everything in Building Materials

Breaker Shafts

Crystallization

is the cause of the breaking of most crusher shafts and is the result of severe, continued and frequent shocks.

To prevent this trouble we have developed special "anti-fatigue" steel shafts which are oil tempered and heat treated.

These shafts are forged in our own shops which contain special equipment for the purpose, including one of the most powerful hydraulic presses ever built, the use of which assures a homogeneous forging.

These shafts are slow to show crystallization under the severest crushing conditions and will outlast any shaft ever before manufactured.

The greatly increased length of life of these shafts make them much more economical than the ordinary shaft even at the higher first cost. For

TRAP ROCK GRANITE IRON ORE

ALLIS-CHALMERS CO.
Milwaukee Wisconsin

Twelve Stories of Solid Comfort in
The Heart of New York

Hotel York

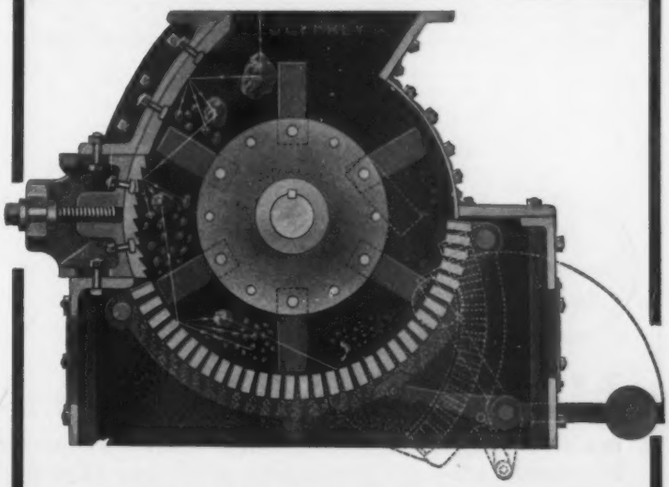
Strictly Fireproof

36th Street Corner 7th Avenue

2 minutes walk from New Penn. R. R. Station and 10 minutes from Grand Central Terminal, one short block to Broadway.

Accommodations better than rates indicate—Desirable Rooms $1.50 and $2.00 bath privilege—Desirable Rooms $2.00 to $4.00 with private bath.

Write for Pocket Map of New York City.



JEFFREY

Swing Hammer Pulverizer

REDUCES LIMESTONE for TUBE MILL FEED

90% pass 20 mesh; capacity, 5 to 50 tons per hour

We will demonstrate the distinctive features of this Pulverizer at the

CHICAGO CEMENT SHOW
(Spaces 21-22)

We will also show our new type of Vibrating Screens. We invite you to either send or bring along samples of the material that you desire to have pulverized or screened. These tests will be free of charge and without obligation.

Our full line of Elevating, Conveying and Power Transmission Machinery will also be explained in our numerous catalogs which may be had upon request.

JEFFREY M'F'G. COMPANY
COLUMBUS, OHIO

New York	Pittsburgh	Birmingham	Denver
Boston	Charleston, W. Va.	Chicago	Seattle
Montreal	Atlanta, Ga.	St. Louis	

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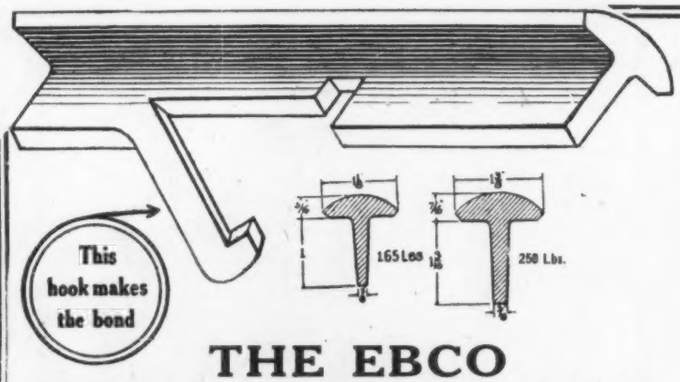


THE EBCO HOOK CURB BAR

is a steel member to be embedded when the concrete is poured, forming a permanent protecting edge and acting as a re-inforcing member as well.

These bars have shear members which bond perfectly with the concrete. Rolled in straight lengths and in curves for street corners.

Write for circulars.

Edward E. Buhler Company

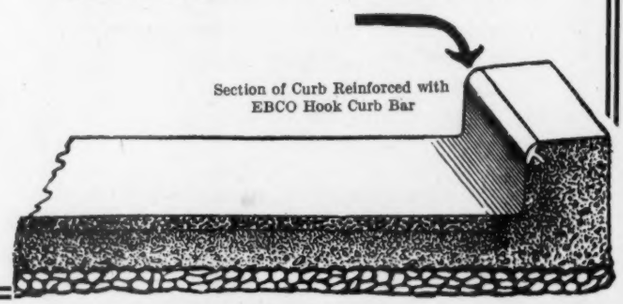
MANUFACTURERS

Sales Office: 103 Park Avenue - - - - - New York City
Factory: Pittsburgh, Pa.

Baltimore Agents: Hudson Cement and Supply Co., Baltimore, Md.
Western Agents: Waterhouse Price Co., San Francisco, Cal.
Louisiana Agents: Standard Paving & Construction Co., 321 Godchaux Bldg., New Orleans, La.
Akron and Canton Agent: Fred Fogarty, Akron, O.
Montreal Agents: Stinson-Reeb Builders Supply Co., Ltd., Montreal, Canada.

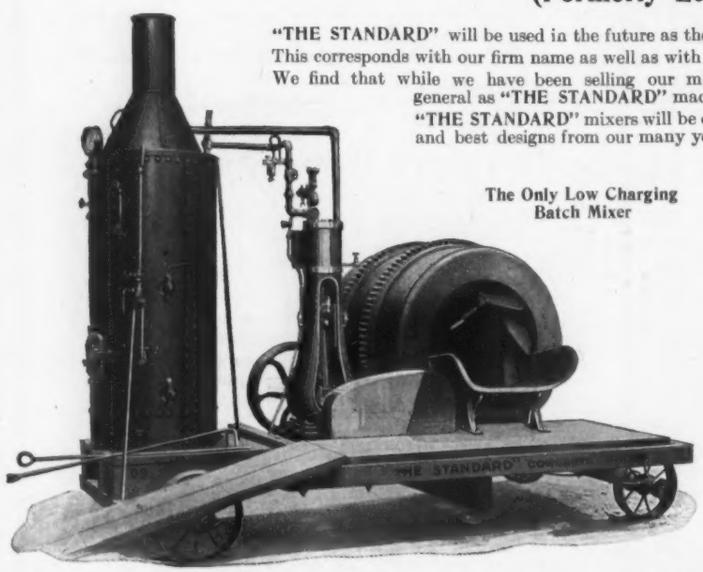
Protect and Reinforce the Corners of Your Concrete Curbing

City engineers and contractors who have had trouble with the old sandstone curbs or with plain concrete curbing, realize the need of a curb whose corner is properly protected against wear.



"THE STANDARD" LOW CHARGING CONCRETE MIXER

(Formerly Eclipse)



The Only Low Charging Batch Mixer

"THE STANDARD" will be used in the future as the name of the mixer, which we manufacture.

This corresponds with our firm name as well as with "THE STANDARD" Scales which are so largely used all over the world.

We find that while we have been selling our mixer under the name of Eclipse, it is known very largely by the public in general as "THE STANDARD" machine.

"THE STANDARD" mixers will be of the same high grade construction as heretofore, using all improvements and best designs from our many years of experience as manufacturers in this and other lines of machinery.

"THE STANDARD" Mixer will have our patented low charging arrangement and also our semi-automatic discharge, which together with other special features has enabled us to build up our large volume of business and have made our machinery so popular with contractors and users.

"THE STANDARD" Mixer will be built following out our general plans, to produce a high grade, simple constructed machine at moderate price, omitting all complicated and unnecessary mechanism and producing by a very simple method, the thorough mixing required for high grade concrete.

"THE STANDARD" Low Charging Mixer is offered to the contractor and user as a machine of large mixing capacity and low first cost, low operating cost, and low expense for repairs, avoiding expensive "shut-downs" and delays which are so frequent with complicated mixing machinery, even when this complicated machinery is in the hands of high priced experts.

"THE STANDARD" Mixer will merit the good record already built up for the Eclipse.

Write for Catalogue No. 33 which gives more information regarding this concrete mixer. Your name brings it.

THE STANDARD SCALE AND SUPPLY COMPANY

1345-1347 Wabash Ave. CHICAGO | **243-245 Water Street PITTSBURG** | **35 South Fourth Street PHILADELPHIA** | **136 West Broadway NEW YORK**

AMERICAN STEEL & WIRE CO'S
ELECTRICAL WIRES AND CABLES

Magnet wire and insulated wires for all purposes, including our Crown and Globe wires for incandescent lighting, Reliance weatherproof wires, slow burning wire, lamp cord, office and annunciator wire, cord for portables, packing house cord, canvasite cord, brewery cord, theatre or stage cables, border light cables, deck cables, elevator lighting cables, elevator control cables, mining machine cables, automobile primary and secondary wires, rubber insulated and paper insulated, lead encased cables for underground service, submarine wires and cables.

We Make

American Wire Rope
Aeroplane Wire and Strand
Piano Wire
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Flat Cold Rolled Steel
Wire Hoops
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Bale Ties, Tacks, Nails, Staples, Spikes
Barbed Wire
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Springs
Sulphate of Iron
Poultry Netting
Wire Rods
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Shafting Cold Drawn Steel
Wire of Every Description

We issue separate catalog for each of these. Gladly furnished upon application.

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You Ought to Know Me by This Time

I'm the man that stands for the **Bay State Brick** and **Cement Coating.** It is a sure protection against moisture when applied to concrete, stucco, plaster or brick. It does not destroy the pleasing texture of concrete and the best architects and builders specify it.

Your stucco or concrete house or mill needs my coating. I've been making my coating for more than twelve years and have learned by experience the requirements of concrete, cement, and stucco construction. My coating sticks where it is put and is a fire retarder.

Write for booklet No. 16

WADSWORTH, HOWLAND & CO., Inc.
Paint and Varnish Makers and Lead Corroders,
82-84 Washington St.,
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TIGER BRAND
WHITE ROCK FINISH

Hydrated Finishing Lime

The Standard by which all Other Brands are Measured

A safe, dependable product. Dealers who handle it are bound to have the best plastering trade on their books. May we send you a quotation?

THE
Kelley Island Lime & Transport Co.
CLEVELAND, OHIO

Pointers On
MITCHELL LIME

1. A High Calcium Lime.
2. Chemically Pure and Free From Waste.
3. A "Fat" Lime. Desirable for Brick Layers.
4. Works "Buttery" Under the Trowel.
5. A Hot Slaking Lime.
6. Cool Working When Ready to use.

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MONARCH HYDRATED LIME

The National Lime & Stone Co.
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Waste Means Loss of Money

WASTE means that you are reaching down into your pocket and meeting leaks that should not exist. For more than seven years we have been expounding the merits of

Monarch Hydrated Lime

As a result, thousands of contractors will use no other. They have learned by experience that it more closely approaches perfection than any other lime, because there is absolutely no waste.

They know that it requires no screening.

That it takes more sand; gauges with one-third less plaster and spreads farther and easier than lump lime.

These are features that are causing thousands to use *Monarch Hydrated Lime*. Are you one of this number?

THE CURRY BAG TYER
IS TYING
OVER 200,000,000 BAGS A YEAR

Absolutely Secure.
Ends Complaints.
Mechanically Uniform.
Faster than twine tying, twice as fast as sewing.
No Skilled Labor.
Cheapest Laborer can operate it.
Simple.
No Sore Hands.
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Economical.
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SUITABLE FOR ANY BAG
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Limestone, Ohio
Lime City, Ohio
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Luckey, Ohio
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MANUFACTURERS OF AND WHOLESALE DEALERS IN

Ohio and Indiana White Finishing Lime, Ground Lime, Lump Lime, Fertilizer Lime, Hydrate Lime, Cement, Plaster, Hair, Etc., Etc.

MAIN OFFICE: Huntington, Ind. Branch Office: Marion, Ohio.

Capacity
8000 Barrels
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"IF IT IS **LIME** WE MAKE IT"

Lump - Barreled - Hydrated - Ground

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We wish a Dealer in Every City to handle our Lime

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PHONE US } Prices

The Scioto Lime and Stone Company, Delaware, Ohio

CROWN HYDRATE

HIGH CALCIUM HYDRATED LIME

At present prices you can waterproof, improve the color and strengthen the texture of all cement construction and actually save money, because the Hydrate replaces the same amount of cement (15 to 25%).

Kritzer Vacuum Process

MARBLEHEAD LIME COMPANY

KANSAS CITY CHICAGO

BANNER HYDRATE LIME

is manufactured under the well known and tried process of A. H. Lauman. It is a clean and economical process. Reasonable cost of Hydrate Machine, and low cost per ton manufactured. For information apply to

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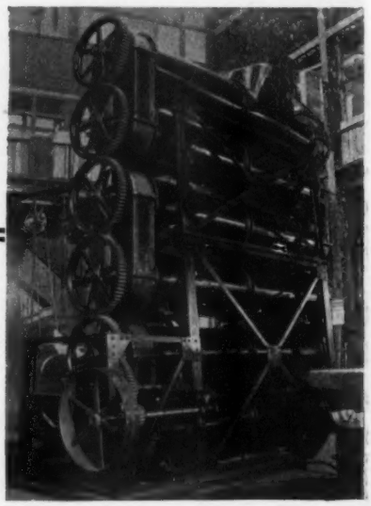
HYDRATED LIME

Bulletin No. 43



KRITZER CONTINUOUS PROCESS

The Government Lime Statistics for 1910 have just been issued. According to this report the quantity of lime manufactured in 1910 was less than that produced in 1909, while the quantity of Hydrated Lime manufactured showed an increase of more than 50%. This shows the drift of the lime business. What evidence could be more convincing?

You Will Eventually Establish a Hydrating Plant Why Not Do It Now?

We can prove to you positively that by so doing,
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Your product will always be perfect. We guarantee this absolutely.
You will have every dealer praising your product.
Every dealer will handle More Lime.
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He will make More Money and hence will wish to use More Lime.
He can do the Same Work with Less Men.
The work will be Impervious to Moisture.
The Concrete will Work Easier and Look Better, in fact, Be Better.

The cost of installation is not heavy. Let us give you prices.

We would be pleased to give you estimates covering **your particular case,** free of all charge.

We can convince you that it has paid handsomely to erect a Hydrating Plant, not merely in one instance, but in every instance.

The Kritzer Way Is the Right Way

98 per cent of all the ideas used in Hydrating Lime are Kritzer ideas.

An Absolutely Perfect Product, Positively Assured by this Process.

A Bond Behind Every Guarantee.

It takes several months to install a plant.

Why not take this matter up with us **Now** and get ready for business as soon as possible?

The Kritzer Company

115 Adams Street
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Is Your Lime as Good as Any In Your Market?

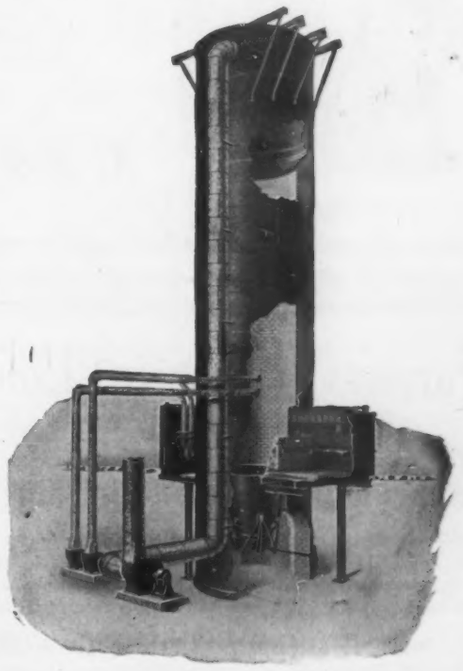
The best way to command a market is to supply the best product offered in your line. Buyers won't haggle over prices if they know the quality is right.

With a Doherty Lime Kiln you can make the very best lime it is possible to manufacture—a lime that the trade will soon come to know and demand.

The explanation is that a Doherty Kiln is not a cheap make-shift, but a scientifically designed, economical lime-making machine.

It uses heat that other kilns waste—and uses it in such a way that the lime is never over-burned or under-burned but is always just right.

Bulletin No. 4—sent on request—may open the doors of a larger market for you.



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COMBUSTION ENGINEERS

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Judge a Hydrator by Its Product

Investigate Hydrated Lime of recognized merit in the large markets. Trace the source of the most popular Brands. Investigate the producers' business development and you will discover that **CLYDE HYDRATORS** have been instrumental in the growth of the business and directly responsible for the superiority of the Brand. If you happened to trace one popular Brand you would find eleven **CLYDE HYDRATORS** used in its production. The Clyde Process is the "common sense way," it builds, multiplies and maintains business. Catalogue and valuable booklet on Hydrated Lime to those really interested.

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Patentee and Sole Manufacturer of Clyde Hydrators

Farnam "Cheshire" Lime Co.

OF CHESHIRE, MASS.

MANUFACTURERS OF THE

Celebrated Cheshire "Finishing" Lime

Well known throughout New York and the Eastern States as the finest finishing lime manufactured. The special feature of this lime is its quick and even slacking, thus preventing any cracking or checking when put on the wall. It is the best lime used in the country today for all

HIGH GRADE FINISHING WORK

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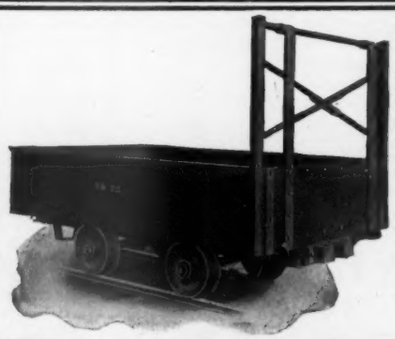

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The Quarry Cars That Give the Service You Want

Carefully designed and built to give the longest and most satisfactory service under the severest exactions of quarry usage. There is an Industrial Car for every purpose and each is the best of its kind to be had.

Illustrated Catalogue on Request. Write

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Successor to THE CLEVELAND CAR CO., West Park, Ohio

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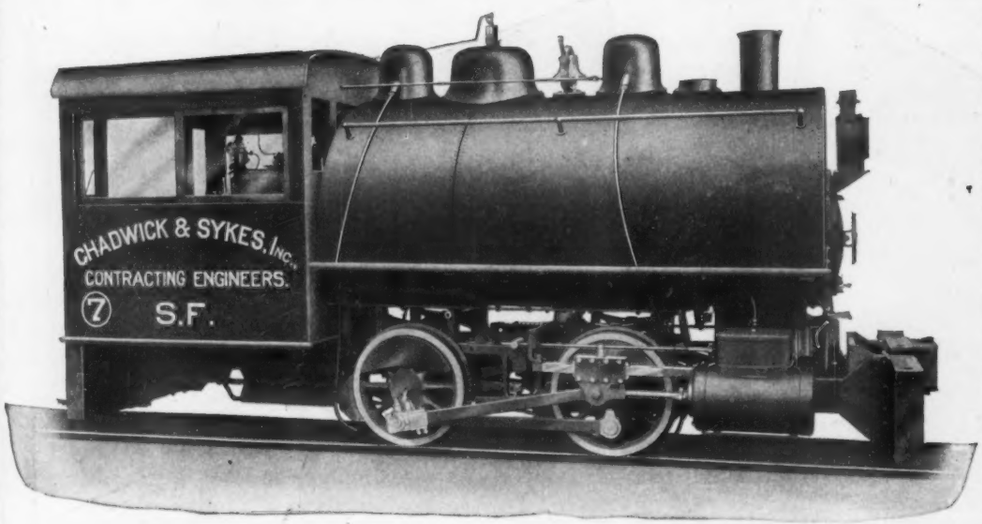

There are several ways of working a contract, but there is only one BEST way.

There is only one right way to buy a locomotive and that is to buy from the concern having the greatest knowledge and experience in the business.

You have had to pay for your experience. You do not have to pay anything extra for ours.

There is much in the selection of a locomotive that cannot be had from pictures or catalogues.

We have men of experience who can help you select your power to get an extra profit for each yard from your contract.

Write or wire us, or better—come to see us.

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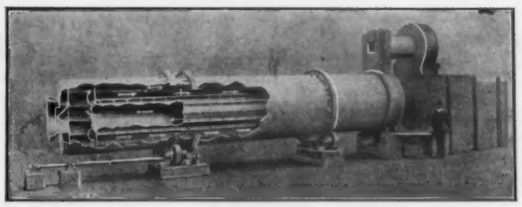
41 Ottawa Bank Building, Montreal, Canada
N. B. Livermore & Company, San Francisco; Los Angeles; Seattle, Portland, Oregon



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RUGGLES-COLES DOUBLE SHELL DRYERS

FOR drying gypsum and sand. In a recent test at a plaster company the Ruggles-Coles dryer showed an efficiency of 81.1%. Here are a few of the many installations in plaster works.

Acme Cement Plaster Co.	Grand Rapids, Mich.
Consumers Plaster Co.	Gypsum, Ohio
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Rock Plaster Co.	Hoboken, N. J.
Rockland Rockport Lime Co.	Brooklyn, N. Y.
Wasam Plaster Co.	Fort Dodge, Ia.

Ruggles-Coles Dryers are also built to dry cement rock, clay, marl, chalk, coal, organic materials, etc., etc. Over 14 years experience makes us capable of drying anything.

Send us a sample of your product and let our engineers figure on your requirements

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50 CHURCH STREET, NEW YORK. CHICAGO OFFICE, McCORMICK BLD'G.

37-51

LET US HELP SOLVE YOUR EXPLOSIVE PROBLEMS

Are you always sure the explosive used in your quarry is as efficient as a Du Pont explosive made exactly to meet your local conditions?

Does your cost of explosives compare favorably with results obtained?

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EXPERIENCE of 110 YEARS

Is at your service to give you practical information and advice regarding the selection and use of explosives for every blasting need.

Give us the data about that unsatisfactory blasting experience of yesterday and we will gladly assist you to overcome the trouble.

Let us help you out of your difficulty.
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ESTABLISHED 1802

WILMINGTON, DELAWARE

Pioneer Powder Makers of America

AETNA

40 per cent Aetna Gelatin is the best explosive for breaking hard rock in wet or dry work, because it contains within a given space the greatest amount of rending power at the right speed for rock breaking. Waterproof, dense, uniform.

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DIRECT HEAT

DRYERS

FOR

BANK SAND
GLASS SAND
ROCK, CLAY
COAL, ETC.

All Mineral, Animal and Vegetable Matter.

We have equipped the largest plants in existence and our dryers are operating in all parts of the world. Write for list of installations and catalogue S. C.

American Process Company
68 William Street, NEW YORK CITY

Stained with Cabot's Waterproof Cement Stains
Dudley S. Van Antwerp, Architect, Montclair, N. J.

Cabot's Waterproof Cement Stains

Artistic Coloring and Thorough Waterproofing in One Operation

They give the same soft, artistic coloring effects as the celebrated Cabot's Shingle Stains and at the same time make all exterior cement surfaces *completely* and *permanently* rain-proof. They sink into the pores and form no coating over the surface, and therefore do not cover and spoil the natural texture of the cement and cannot crack or peal off. Low cost, easy to apply, and the only artistic colorings for cement.

Catalogue and full details on request

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BOSTON, MASS.
1133 Broadway, N. Y. **350 Dearborn Ave., Chicago**
AGENTS ALL OVER THE COUNTRY

MEDUSA

PURE WHITE PORTLAND CEMENT

WHITE PORTLAND CEMENT — SANDUSKY PORTLAND CEMENT CO. — SANDUSKY, OHIO. — STAINLESS.

A beautiful product adapted to ornamental artificial stone work of the highest grade.

For exterior and interior work. Stainless.

The first true White Portland Cement ever manufactured.

GUARANTEED TO PASS STANDARD SPECIFICATIONS

Before placing orders do not fail to get our free illustrated booklet and samples of

Medusa White Portland Cement
Medusa Waterproofing
(Makes concrete absolutely impervious to water)
Medusa Waterproof Portland Cement
(Gray and White Cement Waterproofed)

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SANDUSKY, OHIO

THE CUMMER DRYERS

For Mechanically Drying Everything. The F. D. Cummer & Son Co., Cleveland, O.

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FOR SAND, CLAY, ROCK PRODUCTS AND OTHER GRANULAR MATERIALS.

Excellent Results, Moderate in Cost and Expense of Operation.

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S. E. WORRELL
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(First Manufacturer of Rotary Fire Drying Machines in the U. S.)

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to all our readers.

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Information Bureau ROCK PRODUCTS, 537 S. Dearborn St. Chicago

ROCK PRODUCTS

ESTABLISHED IN LOUISVILLE, KY., 1902.
DEVOTED TO CONCRETE AND MANUFACTURED BUILDING MATERIALS.

Volume XI. **CHICAGO, FEBRUARY 22, 1911.** **Number 8.**

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THE FRANCIS PUBLISHING COMPANY
EDGAR H. DEFEBAUGH, Prest.
Seventh Floor, Ellsworth Bldg., 537 South Dearborn St., Chicago, Ill., U. S. A.
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Communications on subjects of interest to any branch of the industry are solicited and will be paid for if available.
Every reader is invited to make the office of Rock Products his headquarters while in Chicago.
Editorial and advertising copy should reach this office at least five days preceding publication date.

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Subscriptions are payable in advance, and in default of written orders to the contrary, are continued at our option.
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Entered as second-class matter July 2, 1907, at the Postoffice at Chicago, Illinois, under Act of March 3, 1879.
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The Sherman Anti-Trust Law seems to be about as popular with building supply dealers as a mouse at a pink tea party.

Much is heard these days about "the methods of big business." The little man is just as big as the big fellow, although perhaps more conscientious.

The association meetings have been held and you have learned a large amount of wisdom. Are you going to put these things in practice and get the value of your association? Or will you continue in the old way?

So many letters have come congratulating ROCK PRODUCTS on the Daily issued at New York that we desire to take this opportunity of humbly thanking the writers, and hope that most of them will come to Chicago.

The recently organized National Association of Sand and Gravel Producers is forging ahead at a most gratifying pace. New members are coming in constantly and we believe the association has a most promising future.

Conditions in the hard wall plaster field have the same bright hue that other departments of the building material industry are showing. The tonnage of production this year will far exceed that of last year, and prices ought to continue on the up-grade.

Throughout the country, dealers are reporting that the prospects for a good business year never were better than at the present time. Large projects are to go ahead and the home builder will continue to build homes in spite of the usual presidential year bugaboo.

The clay interests are setting great store on their first general exhibition that is to take place at the Coliseum in March. This is another boost for the dealer in building materials and it deserves the hearty cooperation of all identified with that trade. The show will be most interesting and instructive.

The heartiest welcome that Kansas City can give the forthcoming show there is its conversion to the use of concrete in sewer construction after years of bitter fight against it. This capitulation on the eve of the show ought to clear the atmosphere in the Southwest and be most beneficial to the exhibition.

This is the time of the year when "Everyman" goes through the inventory season, then sits back and estimates where the past year has landed him. If the figures are not on the profit side perhaps he will be willing in this year of our Lord 1912 to listen more attentively to some of the cost figuring talk.

One of the most striking features of the National Builders' Supply Convention was the assertion of a minister at the banquet table, that what was needed more than anything else in the world was a deep sense of honor in business; a little less looking for honor in the other fellow and more attention to your own sense of honor.

The Chicago Cement Show is on as we go to press. The Coliseum is filled with interesting and instructive exhibits and the exhibitors have vied with the management in making this show the banner occasion in the history of the industry. It is to be hoped that every exhibitor will meet with that success which, we are sure, he deserves.

The New York Cement Show was fruitful in the lessons it taught. Comment was made that some exhibitors succeeded better than others, and it was noted that those who succeeded were of the class who came to the show with well devised plans for selling or displaying their products. It goes without question that it is impossible to succeed in anything without a plan of operation. This applies to cement shows as well as anything else.

The intelligent thought of the best brains in the cement industry is being given the development of the use of cement in road building. The spirit of improvement is keeping pace with the increased value of farm lands and the countryman now begins to see the advantages that will come to him directly by the improvement of the roads. When once the practice of using cement in this manner shall be established a new and profitable field will be opened and the country will be the gainer in roads that will last practically till the crack of doom.

At every association meeting thus far this winter considerable attention has been given to the lien laws of the various states. It appears that nearly everybody identified with a building is protected except the man who sells the materials. Concerted action ought to be taken along the line of securing a revision of these laws in the various states so that they would be uniform. As the matter now stands, in most instances, the contractor has the first lien and the dealer gets what is left; that is, "nothing." The subject was discussed at New York and at all the other conventions, but discussion will do no good unless it is followed by action.

Some of the publications that take advantage of every opportunity to exploit concrete in a detrimental way, have been making capital out of the recent failure of a structure at Indianapolis, Indiana, as an argument against the use of concrete in construction. So long as ignorant and unskilled workmen are employed in the mixing and placing of concrete, these accidents will happen. We have no apology to make for failures that result from ignorance, and the sooner that architects and contractors learn that only men with a knowledge of the materials should be employed on the work, will concrete construction be conducted in a safe and sane manner.

EDITORIAL CHAT

THE DAILY ROCK PRODUCTS.

Ordinarily it is not becoming for a publication to blow its own horn, but it is only a matter of justice to the trade that it should know something about the tremendous hit which the DAILY ROCK PRODUCTS made at the New York Cement Show.

At all the previous shows and conventions, the Daily has been received well and has been watched for each day and seized with avidity by delegates who wanted to know what was going on, but at the New York Show this year, all the visitors, the exhibitors, and the guests, at the great hotels, awaited each day's issue with deep interest and the printer was kept busy supplying the demand. In addition to all the popular demand for the Daily at the show and at the conventions held at the same time various bureaus of the United States Government, and large institutes allied with the building material industry in the United States were supplied with copies, to keep them informed of what was going on. One official of a company in the East who was not able to be in New York said enthusiastically: "I could not be at the show, but when I read that Daily each day it seemed just as good to me as being there myself," so that the little paper fulfilled the office of not only telling what was going on at the show and at the conventions, but it kept all those who were not able to be there in touch with the great events that were transpiring in the metropolis at the time. The cost of the enterprise, the extra labor necessary, are all contributed cheerfully to the industry in the same spirit that ought to characterize every man who is not looking today for results, but who is looking ten years ahead when the cement industry will be equal to any other on the American continent.

What was done at New York will be repeated at Chicago, and later at Kansas City. As one of the officials of the Cement Products Exhibition Co., said: "Your Daily is no longer a private enterprise; it is one of the institutions of the Cement Show," and it is felt that every exhibitor and every man who has a knowledge of the ins and outs of the building material industry feels the same way. It is the desire to make it better at each show than at the one previous in that same spirit of progression and improvement that ought to characterize the industry itself.

Necessarily it deals largely in personalities and the purpose of this is to make the casual visitor and the man who is just looking in to the industry acquainted with the men whose efforts are being observed to build it up. We look upon these men as constituting one great family, all with a common purpose, and when you see their names mentioned, you know they are doing something.

The advertisers who used its pages in the past are more than pleased with the results gained, for it goes into the hands of every visitor who comes into the doors of the show and at all the conventions. They regard it as one of the best advertising mediums they have ever used, especially for reaching the man who is just entering the field who becomes interested at the show.

CHANGE AT COLUMBUS.

We have an announcement from the Columbus Builders' Supply Company, to the effect that at the annual meeting of the company, February 3rd, Geo. V. Christian was elected president, and Geo. V. Christian, Jr., was elected secretary, treasurer and general manager. Mr. Christian, that is, the Christians, both father and son, are well known to the building material interests in Columbus and vicinity, and under their management the company ought to keep up the high reputation it has enjoyed in the past. Both are men of business acumen and highly respected in the commercial center circles of Columbus.

"Davy" Thompson, who for a number of years has held the reins of the Columbus Builders' Supply Company, has taken a step up. He is now vice-president of that company and manager of the wholesale department, and his friends will be pleased to know that he is in a position worthy of his capabilities. He is one of the "comers" and he will surely be heard from later on.

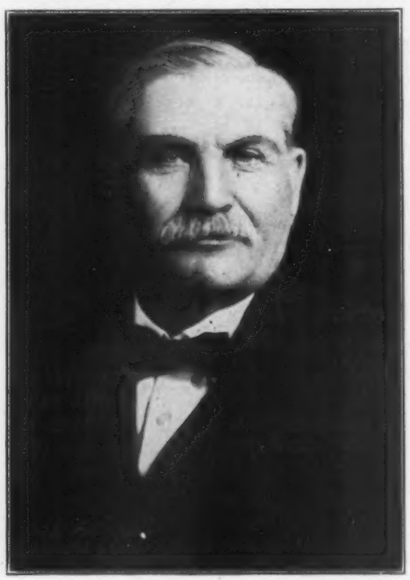
THE INDIANAPOLIS FAILURE.

The New York Sun of January 21st contained extensive comment on the failure at Indianapolis December 6th of the Pres-to-Lite Building, in which six men lost their lives, laying the blame for the catastrophe to the inexperienced men who were engaged on the job. It is only another lesson that comes through the loss of life at stated regular intervals, showing that reinforced concrete work is not common laborers' work, and the sooner that truth is realized the sooner will failures of this class of building cease.

Reinforced concrete work is a highly specialized form of building and requires more than the ordinary supervision to carry it successfully through. Instead of giving such work to the ordinary contractor, it should be given to specialists, and specialists only, for there are specialists in reinforced concrete construction. Where the great mistake is made in the erecting of buildings of reinforced concrete is in giving the work to an ordinary mason contractor, believing he can do the work satisfactorily, because it is mason's materials that are to be used.

DEATH OF FRANK FOWLER.

Frank Fowler, president of the Fort Dodge Gypsum Company, and a well-known citizen of Mankato, Minn., died January 18 at San Diego, Cal., after a lingering illness. He was 67 years old, and his birthplace was Little Branch, New Brunswick. He came West at the age of 20 and was engaged in various business enterprises, and had been a citizen of Mankato for 35 years. His first business venture was with Martin Ring, of Minnesota, in the quarry business at Mankato. Mr. Ring sold his interests to Mr. Fowler, who later formed a partnership with B. F. Pay, which continued until the end. Mr. Fowler was also a senior member in the Pennenberg Brick Company at Le Hillier, near Mankato. Besides the interests at Mankato, the firm is interested in a cement works at Austin, Minn. Mr. Fowler was also vice-president of the Mankato State Bank. In his business and social life he was greatly beloved and as a citizen and friend and was honored by all. He was prominent in Masonic circles.



THE LATE FRANK FOWLER, MANKATO, MINN.

E. W. Houghton, founder of the Houghton Lumber Company, which has yards at Galva, Wyanette, Buda, Altona, Wyoming, Bradford, LoMoile and Vermont, and formerly one at Galesburg, Ill., died February 6 at Daytona, Fla. He was a former member of the Illinois Legislature and was prominent throughout the state.

We have at hand a leaflet from the Government, reporting the progress that has been made in the efforts to secure an agreement upon a single uniform specification for Portland cement in the United States. The leaflet says that satisfactory progress has been made along that line, and that further reports will be made as the work progresses.

Gordon Wilson, chairman of the Sack Committee of the Association of American Portland Cement Manufacturers, writes ROCK PRODUCTS that the fight to get a reasonable freight rate on empty sacks has been won.

History Makers of the Building Material Industry

The subject of the sketch this month is that of one of the wheel horses of the cement industry in America. A man who has had as much to do as anybody with the formation in the early days through its formative period of this modern material for building, he is the man whose face is familiar at all meetings of the Association of American Portland Cement Manufacturers and whose business acumen and foresight have had much to do with the establishment of that association on a firm foundation.

It is hardly necessary to say that the man in question is Robert W. Lesley. Those who know him have always remarked on the one great characteristic of his make-up—the energy of a steam engine. The story of his life will be of particular value to the younger element, who through a study of his career will be able to gain lessons that will be of great value to them in the future.

Robert W. Lesley, the dean of the cement industry in America, was born in Philadelphia, Pa., July 5, 1853, educated at the University of Pennsylvania, was employed by George W. Childs, Editor of the Public Ledger, of Philadelphia, as a reporter and associate editor until 1879; was a court reporter and admitted to the bar, but at the early age of 18 organized the firm of Lesley & Trinkle, acting as sales agent for the Portland cement made by D. O. Saylor, the original manufacturer of Portland cement in the United States. He was instrumental in organizing and really was the founder of the American Cement Company, who have operations at Egypt, Pa., and Jordan, N. Y., and from the start of the industry has been very active in the operating and distributing of Portland cement.

There is no doubt in the minds of the building material trade that Robert W. Lesley is one of the greatest factors in the progress of the cement industry, contributing to its literature and its commercial advancement longer than any other individual.

Mr. Lesley is a writer of marked ability and his contributions have been printed in the leading scientific journals all over the world. He is also the publisher of the Cement Age, of New York. He is vice-president and chairman of the standing committee on cement tests of the American Society for Testing Materials. He is a clubman with memberships in the principal clubs of his city and New York. He is an enthusiastic member and was the first president of the Association of American Portland Cement Manufacturers. Although short in stature, he's big in brain and muscle.

He has ever been active in the promotion of the welfare of his city and state, although so closely allied to the progress of the industry with which he has been so closely connected that his greatest efforts have been given to the upbuilding of the industry in which he is largely connected, mostly in the manufacturing and distributing of cement, being president of the American Cement Company, of New Jersey; vice-president of the American Cement Company, of Pennsylvania; president of the Lesley-Trinkle Company, Philadelphia; president of the United States Building Material Company, of New York and Boston; vice-president of the Guard Rail Fastener Company, and vice-president of the American Society for Testing Materials, and a member of the American Chemical Society, England Chemical Society and Engineers' Club, of Philadelphia.

Mr. Lesley is a home man. His villa at Haverford represents taste, comfort and happiness. He graciously attributes to Mrs. Lesley, however, credit for this beautiful home.

All these contributing facts illustrate the enterprise, the aggressive action of a man who has progressed by his own efforts and lent his hand to the advancement of his neighbors at the same time.

We regret to announce that John L. Kirk, a well known dealer in high explosives, concrete mixers, etc., of Pittsburgh, Pa., died on January 23rd. Mr. Kirk was well and favorably known to the trade and enjoyed the friendship of all with whom he came in contact. It is understood that the business he conducted so ably is to be continued on the same wise business policy that he established.

We have received from Wm. J. Jackman, A. B. LL. B., Dean of the International Law & Business Institute, Minneapolis, Minn., a copy of "The Business Student." Dean Jackman has compiled a very fine book, setting forth the stunt for the purposes of the institute.

G. W. PATNOE MAKES CHANGE.

G. W. Patnoe, who has been connected with the Dolese & Shephard Company for twenty-five years as master mechanic and superintendent, has resigned.

Since February 1st he has been associated with the Holran Stone Company, of Cleveland, Ohio. He has taken charge of their Maplegrove (Ohio) plant as general superintendent.

Mr. Patnoe is one of the best posted men on crushed rock in the country and has established his connection with this company on a basis most satisfactory to the Holran Stone Company and himself. He contemplates making a number of changes at the plant which will increase its capacity and improve the quality of the product produced.

This is the picture of one of the rising young men of the cement industry, H. M. Scott, Assistant Western Sales Manager of the Lehigh Portland Cement Company, Chicago. Before he was discovered by Fred Paulson, he had spent several years on

H. M. SCOTT, ASSISTANT WESTERN SALES MANAGER LEHIGH PORTLAND CEMENT COMPANY.

the road and had been confined three years in the New Castle office before he was found and brought into the western light. Appreciative of his deliverance, he is making good with his coat off. Keep your eyes on this young man. He is one of the kind that will advance.

S. M. Hall, the live wire rock crusher and road contracting expert, who was well known in Ohio a few years ago, is now operating in the new state of Kansas. He is the full front and both flanks on the firing line of the Moline Lime, Stone & Cement Company, of Moline, Kans. You can bet two things —that they are making nice clean screened lime rock for concrete and macadam and that it is being sold by the ton, or else there is a row on every minute.

Announcement has been made in the press dispatches that General T. Coleman du Pont, president of the Du Pont Powder Company, will give away the surplus of his fortune of $12,000,000 to be devoted to the building of good roads. Delaware and the adjoining states will be the beneficiaries. This is the first fruits of the remarkable wave of sentiment that has swept over the country in favor of better roads in every district. Mr. Du Pont, always a public spirited American, has set the pace for other men of wealth, and his generosity will result in a monument which, like that of Horace, will be "more lasting than bronze." His monument will be a series of good roads, something practical for the everyday use of his fellowmen and not something merely to be looked at and admired. Libraries are magnificent; stone shafts are beautiful to look upon; museums afford momentary entertainment, but good roads that enable quick and speedy intercommunication and give the farmer the opportunity easily to haul his crops to market, or the pleasure vehicle to speed quickly along through the centuries, appeal to Mr. Du Pont as a monument most to be desired. Every patriotic man must feel a thrill of pleasure at this magnificent gift.

WM. B. BARR, WM. WOLFF SMITH, E. H. PULLMAN
Contributing Editors
722-723 Southern Building, - Washington, D. C.

OUR WASHINGTON BUREAU.

The National Government is in such close contact with every line of business that a reliable source of information located at the Capital is everywhere regarded as invaluable. ROCK PRODUCTS maintains at Washington a fully equipped and highly efficient news and information bureau located in the heart of the business and financial district and convenient to the government departments. Our patrons who may wish to be privately informed will find our Washington Bureau prepared to serve them promptly and efficiently by mail or wire. Charges are consistent with the character of the service.

The field covered includes: Congress, the U. S. Supreme Court, Court of Commerce and other courts; the Interstate Commerce Commission and other commissions, and all Government Departments with their various bureaus and branches.

Our patrons are invited to make our bureau their headquarters while in Washington and avail themselves of our facilities.

Inquiries may be addressed to ROCK PRODUCTS, or to its Washington Bureau, Rooms 722-723 Southern Building, Washington, D. C.

Uniform Specifications.

Washington, Feb. 15—A uniform specification for Portland cement for the United States has been agreed upon by a committee of engineers from various interested branches of the government service after a number of conferences. It has been recommended for adoption in connection with the vast quantities of the material used by the government in the construction of the Panama Canal, public buildings and other works.

The conferences were participated in by various national engineering organizations and a tentative specification passed upon by cement interests throughout the country. Substantial agreement was reached upon all points involved except the methods of determining normal consistency and time of setting. In those the American Society of Civil Engineers did not fully agree. The subject will be discussed further at the national meeting of the society in New York Wednesday.

Reclamation Work.

Contracts for furnishing Portland cement for the use of the Reclamation Service have been awarded by the Secretary of the Interior as follows:

To the Colorado Portland Cement Company, of Denver, Col., 15,000 barrels at 95c per barrel, f. o. b. cars Portland, Colo., for use on the Grand Valley and Uncompahgre Valley projects.

To the Iola Portland Cement Company, of Kansas City, Mo., 10,000 barrels at 70c per barrel, f. o. b. cars Iola, Kansas, for use on the North Platte project.

To the Pacific Portland Cement Company, of San Francisco, Cal., 9,000 barrels at $1.32 per barrel, f. o. b. cars Bolinas, Cal., for use on the Orland, Umatilla and Klamath projects.

To the Riverside Portland Cement Company, of Los Angeles, Cal., 10,000 barrels at $1.37½ per barrel, f. o. b. cars Riverside Junction, Cal., for use on the Yuma project.

Government Mixing Plant.

The Reclamation Service is preparing to install a plant for the mixing of sand and concrete at Arrowrock, Idaho. This plant will have a daily output of 1,000 barrels of 40 per cent blend sand cement and will cost approximately $40,000. The product will be utilized in the construction of the Arrowrock dam, which is to be the highest masonry dam in the world. This enormous structure, which will be 351 feet in height, will require 500,000 barrels of cement, and the engineers estimate that the use of the blended sand and cement will effect a saving of more than $250,000 in the cost of the dam. Experiments in the dilution of cement with extremely fine ground silica, notably on the Los Angeles aqueduct, have shown that great economy can be effected in concrete construction. On the aqueduct work the cement is being reground with volcanic rock, the latter comprising from 60 to 70 per cent of the whole. This mixture is being used in the usual way in making concrete, and is standing all the tests as to strength and other qualities. At the Arrowrock site there is an abundance of granite which will make a first-class blending material, the use of which it is believed will result in great saving in the cost of cement.

This is not the first experiment in manufacturing by the Reclamation Service. Among its numerous ventures it will be remembered that a cement mill was established at the Roosevelt dam in Arizona which turned out 340,000 barrels of first-class cement at a net saving of $615,000 over the lowest bid from private manufacturers.

The building of the highest dam in the world necessarily presents many important problems calling for initiation and inventive genius. At the present time the engineers are operating a standard gauge railroad with daily freight, mail and passenger service, a large electric power plant, machine shops, merchandise stores, water works, and a huge commissary to care for more than 1,200 employees.

Iola Gets Contract.

The Secretary of the Interior has awarded contract to the Iola Cement Company of Kansas City, Mo., for 20,000 barrels of Portland cement at 60c. per barrel f. o. b. cars, Iola, Kansas. This cement is for use in the various Government irrigation projects, and is to be supplied for delivery up to March 31, 1912.

Dr. A. T. Goldbeck and his corps of assistants of the testing laboratory of the Good Roads Division of the Department of Agriculture are at present carrying out regular routine experiments. The experiments now under way are the testing of concrete arch culverts and the standardization of tests on road gravel.

Dr. Goldbeck has a couple of very interesting manuscripts in the course of writing which will later be published.

A campaign will soon be launched in Congress for the restoration of the old system of federal aid for public highways which was discontinued when the Civil War interrupted work on the Cumberland road. Automobilists, business men and farmers are behind the movement, all working together, and it is declared that the Democrats will have to face the necessity of passing a highway bill or lose the votes of these interests.

Recent Patents.

Patents granted: Concrete mixer, W. L. Keller; beam form and joist for concrete structures, by R. Anderson.

Cementing and snipping machine, J. W. Barna.

Concrete construction form, J. Elsmere.

Metal concrete container, I. A. Braddock.

A. D. Hadsel, concrete mixer.

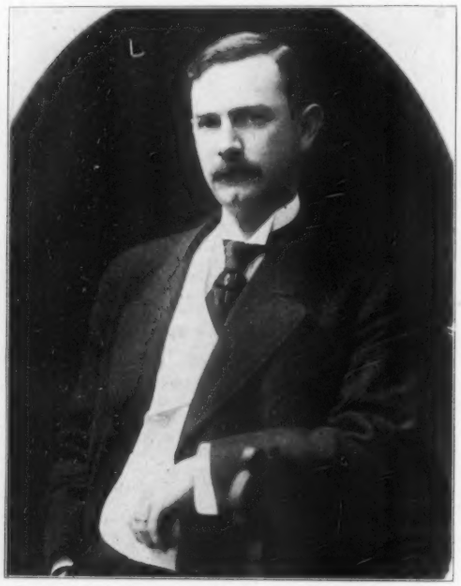
Concrete mold, H. O. Meek.

Reinforced concrete structure, M. Mingay.

To Purchase Equipment.

The Secretary of the Interior has authorized the director of the Reclamation Service to purchase by contract four derrick hoists and four stiff-legged derricks adapted to handle ten-ton loads, for use in the construction of Arrowrock Dam, Boise irrigation project, Idaho. The cost of this equipment is estimated at $18,000.

The Secretary of the Interior has authorized the Reclamation Service to construct by force account reinforced concrete turnouts from the main canal, Sunnyside unit, Yakima irrigation project, Washington, to supply the Rocky Ford and Euclid laterals and the Mabton Feeder Canal. The estimated cost of these structures is $8,400.



J. K. BARBOUR, DISTRICT SALES MANAGER SECURITY CEMENT & LIME CO.

A recent news item from Pittsburgh district is the appointment of J. K. Barbour as District Sales Manager for the Security Cement and Lime Company with offices on the 15th floor of the Oliver Building. The territorial lines have been broadened and the sales force increased in keeping therewith. An aggressive campaign on Security and Berkeley products already has begun. Mr. Barbour takes up his duties with every assurance of success, due to his long experience in the lines covering the manufacture, sale and actual use of materials in building construction. He is best known to the trade in the Atlantic seaboard cities through his past connection with the Atlas Fireproofing Co. of New York City as Superintendent of Construction and Secretary.

Congratulations are in order for Richard L. Humphrey, the energetic president of the National Cement Users Association, for the magnificent programme he has arranged for the Eighth Annual Meeting in Kansas City. This earnest student of concrete has done more than any other man to bring about methodical and scientific treatment of cement in construction. Every man identified with the industry owes Mr. Humphrey a debt of gratitude for the splendid achievement that is to be witnessed in Kansas City in a few weeks. He has widened the scope of the association and made it world wide, and the meeting will assume an international character, because of the presence of scholars from many other nations than our own. Success to it.

FIRST REINFORCED CONCRETE PIPE SEWERS IN KANSAS CITY, LAID DECEMBER 31, 1911.

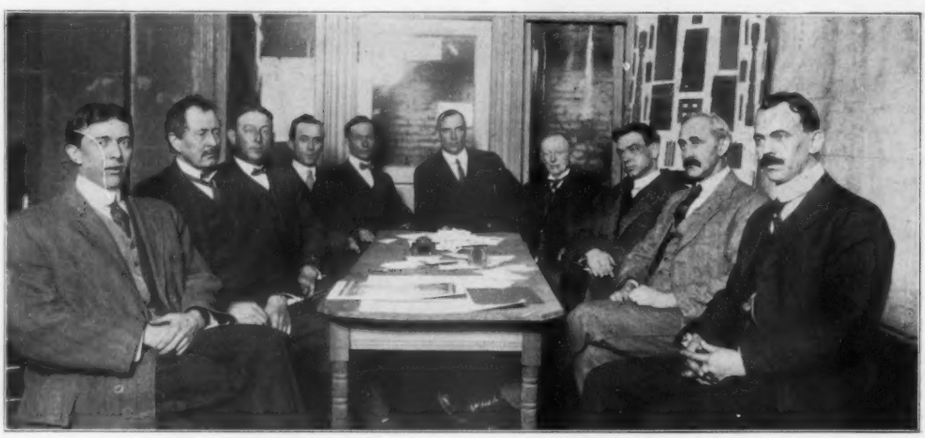
On the eve of the Cement Show in Kansas City comes the announcement that concrete has gained a great victory in that city in competition with clay by the agreement of the Kansas City Council to accept concrete pipe in competition with clay and the first concrete pipe was laid in that city December 23, 1911. It is reported that the competition has already resulted in a reduction of from 20 to 40 per cent in the price of clay pipe. This fight between clay and concrete pipe in Kansas City has been going on for many years. Two years ago Mayor Crittenden became interested and wrote to the city engineers of all the principal cities of the country asking for their opinions on the use of concrete pipe in sewer construction. Almost without exception they replied in favor of concrete. Although this evidence was at hand two years ago, it has taken all this time to convince the city council that it was proper to give concrete sewer pipe the show that it deserves.

W. H. Ford, the general sales maneger of the Canada Cement Company, Ltd., putting the final touches of repairs on the broken leg which he received last Thanksgiving day, at Summerville, S. C., a beautiful summer resort in the neighborhood of Charleston, where the roses and the honeysuckle bloom all through the winter and where Mr. Ford is surrounded by the many friends and attentions of his lot, and this is not to be taken as a reflection that he is soon to be in the superannuated list, but they do tell of a Charleston Belle who has not yet consented to move to Montreal.

E. W. Lazell, Ph.D., who is well known as a leading technical expert in the lime industry, has severed his eastern connections and will remove to Portland, Ore., where he will be associated with Robert S. Edwards, in the chemical engineering profession directly relating to the lime and cement industry. Dr. Lazell is a man of no little achievements in his particular line of study and is recognized as a careful and conservative engineer. In his new field of activities on the Pacific Coast, the doctor takes with him the highest commendations and esteem of the leading operators of the East.

EUGENE Y. SAYER, VICE PRESIDENT AND GENERAL MANAGER, IMPROVED EQUIPMENT COMPANY.

Eugene Y. Sayer, vice-president and general manager of the Improved Equipment Company, the well-known combustion engineers and lime kiln experts, was right in his element at the lime manufacturers' convention which was held recently at the Hotel Astor, New York City. Mr. Sayer is known from coast to coast, wherever lime is manufactured. Possessed of a genial personality, he makes friends readily and possesses that happy faculty of retaining them. He has made a success by a thorough attention to detail and a commanding knowledge of his business.



MEMPHIS BUILDERS' EXCHANGE IN SESSION.

MEMPHIS BUILDERS' EXCHANGE.

Every friend of the association idea is pleased when he sees the men engaged in any line in a town get together. The picture here shown is one of the Memphis Builders' Exchange. They get together at intervals and talk things over, although they are competitors, and the result is that conditions in Memphis are better than in some other towns, because these men know one another. Memphis Builders' Exchange is in effect a local association, and it is a winner. The men in the picture reading from left to right are: L. S. Akers, I. M. Chambers, H. J. Bartl, P. A. Gates, W. T. Hudson, Chas. R. Miller, L. T. Lindsey, R. T. Capers, F. L. McKnight, J. E. Waldon.

Dr. R. Breves, of Rahway, New Jersey, writes to ROCK PRODUCTS complimenting us on the character and appearance of the Daily at the New York Show. It was, he says, the means of promoting all branches of the cement industry and his letter shows appreciation of the educational value of the Daily, which really is the fundamental purpose of its publication. We knew it would educate, and it does. Dr. Breves is only one of many who have spoken enthusiastically of the enterprise.

The Page Engineering Company of Chicaga, Ill., has been incorporated with a capital stock of $25,000 to do general contracting and construction business. The incorporators are John W. Page, Blake C. Smith and Rupert J. Barry.

The L. A. Ashbeck Company of Chicago, Ill., has been incorporated with a capital stock of $5,000 to do general contracting, building and repair business. The incorporators are Clayton E. Crafts, George M. Stevens and William B. Stevens.

The Demling-Wendt Company of Chicago, Ill., has been incorporated with a capital stock of $25,000 to do a general contracting, construction and manufacturing business. The incorporators are Joseph Demling, Paul Wendt and H. E. Williams.

The trade will be interested in knowing that the Stephens-Adamson Manufacturing Company, Aurora, Ill., have opened a branch office at St. Louis, Mo., in the new Bank of Commerce Building. This places this company in a position to reach out for trade in the Southwest and offers better facilities for the transaction of business in that territory and bring about prompt shipments.

FOR THE RETAILER

BUSINESS REVIVAL.

Dun's Review, published Feb. 17 by R. G. Dun & Co., had this to say concerning business conditions:

"The strengthening tendencies are well maintained and confidence in the immediate outlook has a salutary effect in current operations, there being more evident disposition to enter into important commitments for the future. Weather conditions here and throughout the West were favorable in increasing activity in commerce and agriculture, and the transportation returns testify to heavy tonnage movement. Trading defaults number less and payments through the banks again show substantial gain.

"New demands run steady in iron, steel, and railway equipment. Other manufactures obtain satisfactory orders and outputs in various branches exceed those at this time last year. The markets for raw materials sustain a firm tone on wider absorption, especially the minor metals, lumber, leather, and hides. Building activity is renewed, more hands being at work and greater supplies required for prompt delivery. Construction plans assuring much employment and expensive outlays were started at Calumet. Gary works now operate at full capacity, and at South Chicago additional capacity became effective.

J. A. Harland and O. B. Yates have purchased the Hanson retail yard at Shenandoah, Iowa.

The W. E. Terry Lumber Company, af Galesburg, Ill., is no longer a corporation, but a partnership.

A. L. Wright, manager for the Goodell-Skiles Company at Kilbourne, Ill., is in the hotel business now as a side line.

The W. M. Simpson Lumber Company of Galesburg, Ill., has increased its capital stock from $100,000 to $200,000.

C. A. Frisbee, junior member of the building material firm of Miller & Frisbee at Alden, Iowa, has sold his interest to his partner, W. B. Miller.

H. G. Martin, for many years agent for the Chicago & Alton Railroad at Metamora, Ill., has entered the building material business at Metamora.

The new office of Fowler & Pay of Mankato, Minn., dealers in cement, lime, plaster and roofing, is at Third Street and Tenth Avenue, S. Minneapolis.

Ralph O. Hunter, of Decatur, Ill., has purchased the controlling interest in the Bostwick Lumber Company of Centralia, Ill., and has taken active charge of the plant.

Dealing in building materials is among the objects of the Green Oak Farmers' Elevator Company at Green Oak, Ill., and of the Haldane Farmers' Elevator Company at Haldane, Ill.

The Northern Builders' Supply Company of Minneapolis has been incorporated with capital stock of $25,000. The incorporators are F. A. Hitchcock, J. R. Simpson and T. L. Hartnett.

The Beemsterboer Construction Company, of Chicago, Ill., has been incorporated with a capital stock of $2,500 to do general building and contracting business. The incorporators are Louis Beemsterboer, Mary Beemsterboer and Harry J. Meyers.

The Central Illinois Lumber Company of East St. Louis, has been incorporated with capital stock of $42,000 to do a general building material business. The incorporators are B. W. and N. C. Zimmerman, Fannie B. Carr, Lee Montgomery and C. A. Ewing.

The Meyers Brothers retail yard at Orangeville, Ill., has been sold to A. F. Rote of Monroe, Wis., and N. A. and James Rote of Orangeville. These, with Ivan C. Rote and J. C. Heuschwander, have been granted a charter by the secretary of state to do a general building material business under the name of the Orangeville Lumber Company.

OHIO DEALERS.

State Association of Dealers Meets in Annual Convention at Dayton and Discusses Matters of Importance to the Trade.

The annual meeting of the Ohio Builders' Supply Association was held at Dayton, Ohio, January 25 and 26 in connection with the meeting of the lumbermen. It was well attended and the sessions of the convention in the Algonquin Hotel were fruitful and instructive. Some of the dealers brought their wives and the ladies were entertained while their husbands were busy with the affairs of the association.

President F. B. Jones, in calling the meeting to order, directed attention to some of the things that challenge the thought of dealers in Ohio. First among these problems was the lien law. He declared it needs revision so that the dealer will have better protection than he now has. The real estate man, he said, takes the first protection. "You are easy going," he said. "You watch the contractor and rest easy, and the first thing you know the contractor has left town and the building has to be completed by the owner. You declare you will never let this happen again and the next time the same thing happens. We need a law that will adequately protect the dealer, one that will give him his money before the contractor gets his. We simply want protection against the dead beat."

Howard Arnold, Richard Kind, W. A. Fay, D. K. Thompson and W. W. Coney were named a committee on manufactures with special instructions to learn the names of manufacturers who sell direct to the trade and to learn the reasons therefor. The Ohio dealers claim the right to the building material business in their state and resent the encroachment of manufacturers who sell direct to their trade and expect at the same time to have them handle their goods.

Treasurer Do Ville spoke at some length on the importance of getting all the dealers in Ohio into the association and the matter was finally left in the hands of the secretary, who will be backed up in all efforts he will make along that line.

Officers elected were as follows:

President, Howard Arnold, Dayton.

Vice presidents, W. O. Holst, Toledo; J. B. Van Wagner, London; John Smith, Portsmouth; Walter McCammon, Cincinnati; Frank Childs, New Lexington.

Secretary, J. C. Neely, Canton.

Treasurer, J. W. Thomson, Coshocton.

Notes of the Meeting.

One of the events of the convention was a visit to the plant of the National Cash Register Company, where the dealers were told all about how the receptacles for money were made and had their pictures taken.

Richard Kind could not be there because of the illness of his daughter and all were sorry for the train of affliction that has followed this wheel horse of the association.

Bill Fay of Cleveland was missed one afternoon. It was learned he was out at the air ship works with the Wright brothers, learning how to fly.

The printer sends word that another few lines are necessary to fill this page. We will give it to the energetic C. R. Brigham of the Atlas, who told the crowd out at the "Cash" plant that all the buildings were made of Atlas and they believed it. This should be enough to fill this column.

President Howard Arnold steered the crowd over to one of the theaters the first evening and they all enjoyed themselves, considering.

Ladies and gentlemen, the next picture on the screen will be J. C. Neely of Canton, the new secretary. He is a hustler and full of energy, as you can see by looking at his face. You will hear from him later.

Joe Thomson resents the imputation that you cannot speak the name of the town he lives in, but have to cough it. His town is Coshocton. The attempt to make capital out of the name of a town is ill advised.

Fred Paulson and S. B. Chittenden with a regiment of Lehigh cohorts were on hand making new acquaintances and renewing old ones. They are all good roadsters, kind and gentle, will stand without hitching and like children.

W. O. Holst of Toledo hopes to have a quartet at the next meeting. He plays, or sings, second bass with equal ease.

No, Bill Fay didn't buy an aeroplane.

J. Q. Adams asked the girl who handed out the picture cards at the "Cash" plant for a sample souvenir register. The temperature dropped 50 degrees.

B. L. McNulty, alias "Bernie," was there for the Mitchell Lime Company. Somebody asked him if business was "slack." Frank Hunter was standing by and caught him as he fell. He had just sold a train load.

The Attendance.

Athens Lumber Co., Athens, Ohio.
F. E. Hall, Cincinnati, T. J. Hall Co.
H. F. Rowse, Akron, Robinson Clay Products Co.
H. E. Smart, Chicago, Parrafine Paint Co.
P. W. Jandernal, Cleveland, Lehigh Portland Cement Co.
F. E. Paulson, Chicago, Lehigh Portland Cement Co.
A. L. Bowers, Columbus, American Sewer Pipe Co.
J. E. Zimmer, Hamilton, Hamilton Lumber Co.
Elmer E. Stillwell, Bellefontaine.
S. E. Grant, Circleville.
William H. Ortman, Dayton, McGeevy & Ortman.
O. H. Himmebright, Piqua, United States Gypsum Co.
J. F. Hunter, Columbus, F. Hunter & Sons Co.
Charles F. O'Donnell, Bellefontaine, Buckeye Portland Cement Co.
E. Ray Albaugh, Bellefontaine, Logan Co. Lumber Co.
L. E. Fishack, Toledo, Fishack Gypsum Co.
E. W. Barrows, Cleveland, Kelley Island Lime and Transport Co.
B. L. McNulty, Chicago, Mitchell Lime Co.
F. S. Beard, Indianapolis, Michigan Gypsum Co.
C. B. Isbell, Elkhart, Ind., Isbell Lumber Co.
W. F. Powell and C. R. Brigham, New York, Atlas Portland Cement Co.
E. C. Van Epps, Cleveland, American Gypsum Co.
Arthur R. Black, Port Clinton, American Gypsum Co.
Charles W. Schaeffer, Dayton.
John W. Eichelberger, Dayton. T. D. Eichelberger & Son.
C. A. Erwin, Columbus, United States Gypsum Co.
S. Y. Patterson, Pittsburgh, Universal Portland Cement Co.
G. B. Hamer, Dayton, Superior Portland Cement Co.
O. F. Slimp, Cleveland, United States Gypsum Co.
L. G. Powell, Cleveland, Roll Manufacturing Co.
T. D. Hughes, Pittsburgh, Universal Portland Cement Co.
John Mueller, Cincinnati.
H. E. Kindries, Delaware, Scioto Lime and Cement Co.
H. W. Houser, Pittsburgh, Pittsburgh Lumber Co.
A. O. Armstrong, Pittsburgh, Houston Bros & Co.
J. C. Neely, Canton. Neely & Ferrell.
J. W. Windsor, Pittsburgh, Houston Bros. & Co.
George L. Freeman, Dayton, Kelsey & Freeman.
W. G. Clementz, Massilon, A. G. Clementz & Son.
John C. Dennison, Pittsburgh, National Mortar and Supply Co.
J. W. Smith, Portsmouth.
Ed L. Swesinger, Cleveland, Kelley Island Lime and Transport Co.
F. C. Powers, Castalia, Crescent Portland Cement Co.
C. D. Finley, Mt. Sterling, Mt. Sterling Lumber Co.
Frank W. Welch, Columbus, American Cement Plaster Co.
C. B. Elwood. Jackson, Mich., Ohio and Western Lime Co.
W. L. Hawthorn, Dayton.
John B. Van Wagner, London.
F. C. Rauch, Cincinnati, Crescent Portland Cement Co.
Will B. Stuart, Cincinnati, Farrin-Kern Lumber Co.
H. D. Toleston, Alliance, I. G. Toleston & Son.
John L. Cooper, Chicago, Lehigh Portland Cement Co.
C. L. Du Coley, Alliance, I. G. Toleston & Son.
F. H. Kinney, Cincinnati, Hyde Park Supply Co.
W. S. McCammon, Cincinnati, L. H. McCammon & Son.
J. W. Thomson, Coshocton, A. H. Thomson & Son.
W. W. Coney, Cincinnati, The Moores-Coney Co.
S. B. Chittenden, Chicago, Lehigh Portland Cement Co.
F. W. Merrell, Chicago, Northwestern Expanded Metal Co.
W. M. Aldeberger, Dayton, Star Coal and Cement Co.
R. F. Andrews, Toledo, Lehigh Portland Cement Co.
O. P. Line, Holgate, Holgate Lumber Co.
O. C. Maurer, Toledo, Woodville Lime and Cement Co.
H. G. Reynolds and J. L. Martin, Grand Rapids, Mich., H. W. Reynolds Asphalt Shingle Co.
Thomas Donohoe, Camden, South Side Lumber Co.
C. F. Harwood, Cincinnati, Superior Portland Cement Co.
Thomas H. Elwell, Columbus, United States Gypsum Co.
H. O. Hesse, Jr., Wheeling, W. Va., American Gypsum Co.
Kent E. Lyman, Jamestown, Pa., Jamestown Paint & Varnish Co.
F. B. Jones, Toledo.
D. K. Thompson, Columbus, Columbus Builders' Supply Co.
R. E. Do Ville, Toledo, Ohio Builders' Supply Co.
J. J. Rowe, Cleveland, Lake Erie Builders' Supply Co.
W. A. Fay, Cleveland, Cuyahoga Builders' Supply Co.
Howard B. Arnold, Dayton, Dayton Builders' Supply Co.
J. Q. Adams, Coshocton, Coshocton Lumber Co.
C. F. Williamson, Middletown, Hatfield Coal Co.
J. W. Pritchett, Columbus, Flintcote Roofing Co.
G. A. Willing, Columbus.
H. L. Brungart, Columbus, Grand Rapids Plaster Co.
Fred J. Crisp, Akron, Geo. Crisp & Son.
Charles D. Warner, Chicago, ROCK PRODUCTS.
W. A. McCall, Chicago Dealers' Register.
W. A. Holst, Toledo, W. A. Holst Builders' Supply Co.
B. W. McCausland, Cleveland, United States Gypsum Co.
Charles Schmutz, Youngstown, W. H. Murray and L. T. Love, Newcastle, Pa., Crescent Portland Cement Co.

ANNUAL CONVENTION OF THE N. B. S. A.

Important Action Taken and Topics Discussed at the Meeting of the Organization at the Hotel Astor in New York City.

The annual convention of the National Builders' Supply Association at the Hotel Astor in New York January 30 and 31 during the Cement Show was the most interesting and profitable meeting in the history of that organization.

The association, since its inception a power for good among building material dealers, is to be made still more useful immediately. A committee of three for each of the staple commodities is to be appointed to bring the manufacturer of each staple into closer communion with the dealers during the year and at conventions, so that more benefits will result both for the dealer and the manufacturer.

This was the most important action at the opening session of the association's convention.

President's Address.

President Charles Warner, in his opening address, reviewing the work of the year, had this to say:

Gentlemen—In common with most business organizations our association has suffered during the past twelve months from the various causes that have affected trade and confidence.

It is most unfortunate that we have to chronicle such a condition as has prevailed and is still continuing throughout our good country with respect to the relations between the law and legislative bodies on one hand and the business corporations and trade associations on the other.

We all want to accomplish about the same end, viz.: allow business, small or big, to exist on lines that are reasonably profitable and which enable it to secure the necessary capital to steadily develop in those ways that are considered safe and properly remunerative.

But at the same time we all realize from past experience that extortion is not infrequently practiced in some industries in the establishment of terms, prices or other conditions of sale or control that work an injustice on the great body of our citizens. Such actions must be prevented.

The uncertainty as to the extent and form that the molding process will take is truly unfortunate and it becomes every man's duty to assist in forcing a conclusion on lines adapted to our country's present needs and conditions.

I, personally, believe that the supply in most industries has effectually overtaken the demand and that the future growth of our country will be pursued at a somewhat less rate than heretofore.

This forms a combination of conditions that absolutely requires a new order in our laws for the purpose of legally and honorably saving our business enterprises.

But for the saving grace of the illegal though justifiable practices adopted in many industries during the past five years, our country would today be strewn with the business wrecks of our principal enterprises, sacrificed to a belief in that out-of-date maxim, "Competition is the life of trade."

As business men here assembled in our national body we have a duty to perform in adding our quota to the public sentiment that is arising and I hope some consensus of opinion can be reached before we adjourn. Action should be authorized by our association as well as every other national body looking toward the development of that proper and popular sentiment necessary to ultimate success in changing the laws of our country.

It is not my intention to infer in this report that the National Builders' Supply Association has been transgressing the legal proprieties in its work. On the contrary, our executive committee and officers have scrupulously confined the association for many years to educational work and fair and honest argument in considering questions between competitors or between manufacturers and dealers.

At no time within my personal and active contact with the association has it in any way directly sought to adjust prices or lay itself open to legal attack by use of intimidation or boycott. There should be no question in the minds of any of our members as to our organization operating absolutely within the lines of the present laws.

The President then spoke of the resignation of Secretary Wardrop and the conditions accompanying it, and continued:

During the past year there has been extensive work done by your officers in spreading the association propaganda and specific information of help to many members. It would be impossible to appreciate the amount of this work done in numerous channels without living with the secretary and president for several days.

Among the various efforts made was the assistance rendered in the formation of an association of the dealers in the New England States to take care of the special problems arising in that district and to form the means of bringing many of the dealers who were in active competition in that section in closer and more harmonious touch with each other.

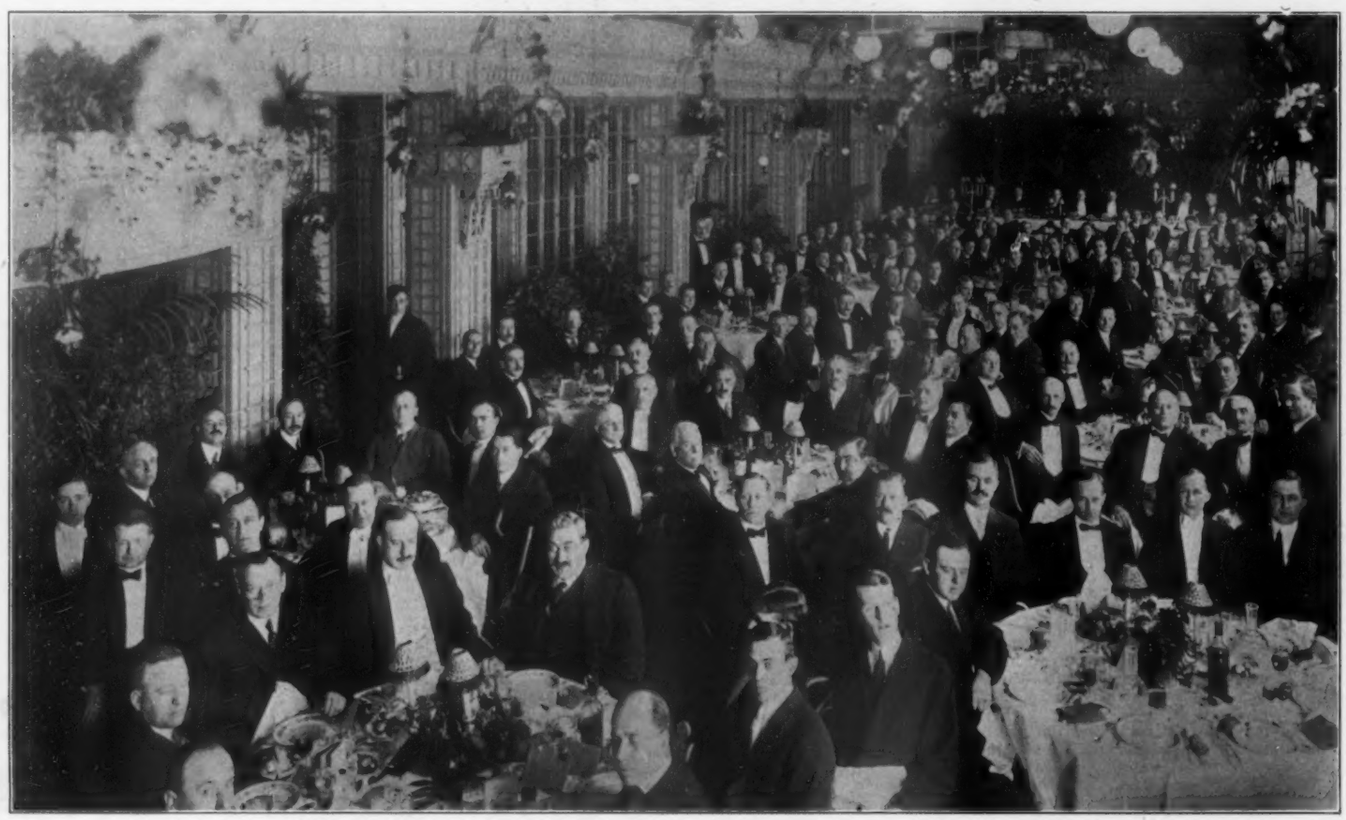
Your executive committee finally concluded a few months ago to incorporate our association and conduct it thereafter under a State charter. The State of Pennsylvania was selected as the most satisfactory State in which to secure this association charter, but owing to the delays in concluding a matter of this special nature our charter papers have not yet been issued, though they should be received withing the next week or ten days.

With the receipt of these papers proper organization meeting will be had and we will become an incorporated body. This is a more satisfactory and definite legal form in which to pursue our organization efforts and would probably better satisfy a few of our members who have had some slight sense of uneasiness as to the personal legal risks they were running under our old form of organization.

Secretary's Report.

Then followed the report of Secretary Dinsmore, in which he said there are now 209 active and 110 honorary members, 319 in all. During the year the secretary has been able to adjust a number of complaints, some relating to freight rates, and others concerning the relations between manufacturers and dealers. After some discussion of the reports, E. T. Knight suggested as a means for bringing the manufacturer and dealer closer together at conventions that provision be made at future meetings for booths in or adjacent to the convention hall.

This led Mr. Lincoln to make the suggestion that



THE NATIONAL BUILDERS' SUPPLY RETAILERS' BANQUET AT THE HOTEL ASTOR, NEW YORK.

committees representing the various products be appointed to get the manufacturers and dealers better acquainted. This plan, it was decided, will be put in operation and the executive committee was empowered to have charge of it.

The Association Idea.

The first paper, one in which all were deeply interested, was presented by J. C. Adams, of the D. J. Kennedy Company, Pittsburgh. The subject was "Profit and Loss of Our National Association." Lack of space prevents its publication in full here, but it should be read and studied in the next regular monthly edition of ROCK PRODUCTS by every building supply man. The salient points of the paper follow:

Within the memory of probably the youngest member here the account reading "Profit and Loss" in our ledgers has been on the proper side to leave a pleasant sensation, but who of you can now think of this account without a shudder? I think I am at least safe in suggesting that in this particular line of business not many have found it necessary to take out a fire insurance policy on their money, for they haven't any money to burn.

A builders' supply man is usually a strenuous, hard working man, but to look over this peaceful delegation of calm and cool men you might think they were all doctors, they seem to take life so easy.

During such period of depression in business conditions as those through which we have just been passing, the question arises in associations as it does in each individual business, "Why isn't there more profit and a way of getting along with less loss?" and we are not always able to discern the reason.

We are somewhat like the Dutchman who had broken into the auto class, had gotten into trouble with his car and was phoning the garage for relief, and upon being asked what was the matter answered, "Between where it commences something what should not be is."

When we endeavor to carefully analyze association work in general and this association in particular, we discover that probably the reason there is not more profit and less loss is that "Between where it commences something what should not be is and something what should be is not."

There is scarcely any limit to the things this association can accomplish if it is used and the proper financial support is given by its members. Now dwell on that just a moment, if you please.

THE USE AND SUPPORT—No success of consequence can be recorded without these very essential points.

The first thing that any of you gentlemen would suggest in your own business is its proper financial support, and you cannot but appreciate that any association work of importance, to be effectively carried out, must be in possession of the necessary amount of legal tender. The problems are so large and complex that a beggarly few thousand dollars can only be expected to take care of a very small percentage of the good that is possible if the proper support is given.

The National has probably not been of the value and assistance to each member that it should have been because YOU have not taken advantage of its benefits and of its possibilities. NOTHING IS OF ANY USE UNLESS USED. You go into the history of any association, if you please, and you will find that those that are used are properly supported and those that are not supported are the associations that receive our consideration probably once a year. During the year communications from the president or secretary are laid aside for a more convenient time for reply and are soon lost sight of. The value of the association is also soon lost sight of, and then the dividend on the investment reduces itself automatically and finally the support is withdrawn. This entry is for the debit side of the "Profit and Loss" account, but the entry can be made to show up satisfactorily on the credit side by providing funds and showing the proper interest.

There are a very great number of ways that this National Builders' Supply Association can be used to be made of very great value to the members. A few ideas that I might suggest are: First—

LOCAL ASSOCIATIONS—Live dealers in several cities have formed local associations that have very materially assisted in making more satisfactory and profitable conditions for themselves. In other places these local associations are not maintained for any extended time because of personal squabbles caused by lack of confidence and without any master hand within the local association to diplomatically adjust such matters, and the failure is often chargeable to an effort to develop on unsound lines that could not be maintained.

The matter of maintaining prices by this local association is for the locals themselves and is in no sense a part of the aims and objects of the National. The members of local associations know local conditions and should be thoroughly capable of deciding what is legally safe and commercially fair.

CREDIT ASSOCIATIONS—After a local dealers' organization is well started and founded reasonably "upon a rock" one of the very important features of the local work to have inaugurated is that of extending credit.

I have personal knowledge of the success and value of a good credit association. This one feature alone has in many instances saved its cost every year from ten to fifty times and put the whole trade on a more certain and sane basis. It very materially assists in eliminating that class of credit risk that has been a prey on nearly every industry by doing their business and making their losses entirely "on the other fellow," namely, the people from whom they obtain their supplies.

COST RECORDS—I have an abiding faith in the good sense of the dealer of the country if he knows what his goods cost; but a very great many otherwise keen business men have it firmly fixed in their minds that the difference between the cost of the goods f. o. b. his siding and the price delivered on the job, less probably 50 cents or 60 cents an hour for drayage, is profit, and cannot understand why his bank account is out of accord with the supposed profit based upon the tonnage he has hauled during any given period, for strange as it may seem in this enlightened age there are still such men in this business who do not have a perpetual or peri-

CHARLES WARNER, PRESIDENT NATIONAL BUILDERS' SUPPLY ASSOCIATION.

odical inventory, who have no conception of what overhead expenses are. Through membership in the National is possible a thorough line of help on features of managing the business and in keeping records of cost, entering each proper item of expense, both direct charges and overhead and indirect expenses, all of which cannot but be helpful to any sensible business man and show, often to his very great surprise, how absolutely absurd are some of his selling prices.

LIEN AND OTHER LAWS—The National is at this time engaged in the study of lien laws, following the suggestions and efforts being made by some of its members in the State of New Jersey. There is, no doubt, much work to be done on this line, and after a good, sane business basis of lien laws is determined and is gotten into satisfactory operation in two or three states and the proper representatives of the National have become thoroughly posted and qualified to carry forward the work necessary on political and legal lines you have a big helping influence in the National. There is no reason why there should be one set of laws in one state and another in another.

SIDE LINE DEVELOPMENTS—Many dealers have been able to develop, very profitably, new departments in their business by taking on certain side line specialties and pushing them actively. Specialties such as waterproofing for concrete, a concrete and brick coating, reinforcing metal for concrete construction, and numerous other commodities that are a convenience for both the manufacturer and the consumer to have you handle, and besides they usually net a very satisfactory margin to the dealer if they are pushed on their own basis, and not allowed to drag along as unimportant side issues in the business.

RELATIONS WITH MANUFACTURERS—The National has already helped in many localities in these issues. It can do a lot more. The situation in this respect is none too good today, but I am firmly convinced that it would have been much worse had it not been for the National. Notwithstanding the fact that the manufacturer in most instances would very much prefer to market his product through the dealer if only for the selfish reason that it will net him a better and more satisfactory return, I am satisfied that the present unsatisfactory condition both to the dealer and the manufacturer is due largely, if not altogether, to the apathetic condition of the dealer and the lack of interest and energy in his own behalf in not using this association.

GOOD FELLOWSHIP—We are met together primarily for the purpose of weighing and discussing those accounts which come up in our daily vocation which concern us the most nearly; seeking through the contact of mind with mind to winnow from the chaff a few grains of truth to add to our store of useful knowledge, having in view a broadening of our vision, a harmonizing of our working ideas and the perfecting of our ethical standards. Such are the fruits of this yearly association meeting while the by-product of good fellowship is of hardly less value. The coming together once a year of several hundred thoughtful and observant men of every section of the country, mingling for a few days in a spirit of camaraderie brings us very close together, not alone in business problems, but in those higher and nobler sentiments which we cherish as patriotic Americans.

Our strength for the future as in the past will be on the aggregated activeness of each individual unit composing the whole, so please do not look entirely to the officers, but devote a little of your own time, money and influence to the building up of a larger and more influential membership that will support the work to be done, and I can assure you that the dividends will make the "Profit and Loss" account of the National look good to all of you.

It is an extremely difficult problem to put down in dollars and cents the credit entitled to Profit and Loss on account of the benefits derived from good fellowship. We cannot weigh it in the impulses of the heart, nor distill it in the alembic of commercial worth, or test it with the re-agents of our mercenary computations. Good fellowship on one hand and putting a price on that good fellowship on the other seems to be as opposite as the poles. Good fellowship ceases to be good fellowship when it begins to calculate what this smile will yield, and what that kindly word of cheer will realize in dollars and cents, at the same time we notice this man of perhaps mediocre ability forges rapidly to the front, that he has countless scores of friends that are always ready to help him, that he is extricated as if by magic from numberless difficult situations, that he is able to reap the largest measure of success and satisfaction out of life, while that man of equal or perhaps superior ability has his commercial or social sky continually overcast with lowering clouds, and that every man's hand seems to be against him; that, when trouble comes, there seems to be no sympathetic ear to which he can pour out his troubles, no friendly heart to which he can apply for sympathy and counsel.

The right kind of good fellowship pays the largest kinds of dividends. It yields superlative results in comfort and self-respect; it gilds our entire sky with golden, rosy light; it dispels the darkest clouds of discontent and gloom; it outlines even the darkest horizon of grief and trouble with a golden border which makes us forget the darker center. In business, it is the most valuable asset that I know anything about. You do not need a written contract with the true good fellow; his promises do not have to be committed to writing to be as good as gold. Competitors work willingly and cheerfully with him.

In closing the session President Warner called attention to the meeting at 10 o'clock this morning and the banquet this evening. Every dealer and wholesaler who fails to attend the banquet tonight will miss a treat.

The session today includes a number of important papers and discussions. Hon. Seth Low will speak at noon, and it is expected the convention room will be crowded.

WEDNESDAY MORNING SESSION.

The Wednesday morning session was opened by Irving Warner, of the Charles Warner Company, on "Auto Trucks." Mr. Warner's paper was based on data gathered by him during the past two months.

"I am fully convinced," he said, "that auto trucks can be made profitable. One of the fruitful causes of expense is tire expense." He said that trucks at best could be counted on for 15,000 miles for service before overhauling was necessary, but

for building supply trucks he thought 10,000 miles would be more accurate. Frequently touring cars run five years without overhauling. He presented the following tables, one representing the mileage cost, and the other the cost for a ten-hour day of eight trips:

AUTO TRUCK COSTS.

Per Mile Operating Costs.

Tires	$ .061
Overhauling and repairs	.030
Depreciation	.075
Gasoline	.030
Lubrication	.004
Per day (first cost)	$2.00

Per Day.

Interest—$5,000, 5 per cent, 250 work days	1.00
Insurance—4 kinds—$150 per year	.60
Garaging, inspection, etc., $25.00 per month	1.00
Driver	2.00
	$4.60

He estimated the average daily mileage at forty miles, with an average load of four and a half tons for a five-ton truck per trip. He allowed a cost per ton at 35 cents for delivery. Loss, he said, comes from unnecessary delays and idleness. Lost time is lost money. As to unloading, he preferred the hand dumping body to the power dumping body.

He found that few dealers keep accurate accounts of their trucks, and usually no summary is kept on the costs. He found one coal truck that delivers fifty tons of coal a day, with a maximum time in the yard of fifteen minutes between trips. He said this truck was earning $2,500 a year for its owner. Other owners get new business with their trucks which they could not get in any other way. In two places he found trucks operating at a loss, their owners not knowing it. One machine was inefficient, and the loss in the other case was due to idleness and delay. He recommended that the building supply man, before purchasing, should study his problem to determine the machine adapted to his needs and should interview a number of owners to learn all about the matter. He laid stress on the selection of a driver. One owner said the efficiency of his truck lost 20 per cent when a helper was added. Bi-weekly inspection was recommended for a machine. It may be said that with reasonable care a modern truck has a long life before it. The paper will be published in full in a latter issue of ROCK PRODUCTS.

So far the building supply man has not derived the benefits from the motor truck that he should.

Mr. Voelkel, in answer to a question about curb delivery, said that in New Orleans they have stopped the practice of delivery inside a building. Now material is piled on the sidewalk. An additional charge is made for delivery inside and the people are educated to that point.

R. H. Whitney, Worcester, Mass., said they have the same practice. At first they said, with reference to fireproof material, we could send it to a place where it would be demanded. It can be worked successfully.

Mr. Kelly, of Providence, said these deliveries are made at curb, and they deliver no material in the building. He said he was induced to buy a truck by hearing papers at the convention. He told his experience of five months with his truck. Up to the present time it has run 4,000 miles. The best day was 43 miles and the best week was 73 miles a day. The largest load was 8,300 pounds. He gets 4 to 5 miles on a gallon of gasoline. Our tires are practically unworn except for a small tear. "Our entire expense," he said, "has been $6.40 for maintenance, and the truck has been in constant use. Our driver was taken out of the yard. He takes complete care of the truck. We have weekly inspection. The truck cost us $3,800. We find the truck does business that a horse cannot do, but we find it must be used on long trips to be profitable. We use it in cases where formerly we shipped by freight and at low cost to the customer, as if sent by freight. We figure the cost between $12 and $13 a day."

Mr. Schultz said that sidewalk deliveries are the practice in New Jersey.

At this point President Warner named J. C. Adams, of Pittsburgh; H. P. Boyd, of Baltimore, and J. J. Voelkel, of New Orleans, as the nominating committee, and as the auditing committee, Ambrose Tomkins and R. H. Whitney.

H. B. McMasters, of the publicity department of the metal lath manufacturers, gave a talk on metal lath. Much of the effort of the metal lath manufacturers, he said, has been directed along the line of research. For determining fire tests a laboratory is maintained at Cleveland. These results will be given wide publicity, showing the value of various materials. With respect to exterior work, he said, metal lath is now recommended by architects as superior to any other material.

Edward M. Hagar, president of the Universal Portland Cement Company, was then introduced. He explained the purpose of the Cement Show and the organization of the Cement Products Exhibition Company. The whole idea of the show is to increase the use of cement. The cement shows reach a class of people who can be reached in no other way. He said, speaking along the line of publicity, he knows of companies which, out of every $10 spent for publicity, only $1 is spent for advertising its own cement. In the building of residences and on the farm are the directions in which the increase is to come. There are two ways of increasing business, he said. One is by getting it away from a competitor, and the other is by increasing the demand. We believe in the latter method. He advocated the use of booklet on various forms of concrete construction for the increasing of trade. He said the Madison Square show last year cost $49,000 and the company lost $7. He spoke of the effect the show has on various classes of people. The great class reached are the men, women and children who we want interested ultimately in cement. There are 6,000,000 farms in the United States, he said. If each farmer would use ten barrels a year that would mean 60,000,000 barrels that would have to be made for the farmer. It is the small use which amounts to much in the aggregate.

RALPH DINSMORE, SECRETARY N. B. S. A.

Mr. Hagar then took up the good roads matter. If the dealer would get educated on the subject, he said, and see that pavements in his town have a concrete base that would increase the demand. In conclusion, he asked that the show be supported on account of its purpose of increasing the demand for cement.

Hon. Seth Low, former mayor of New York, and president of the National Civic Federation, was then introduced. He spoke on the relationship between capital and labor.

He said he was not an employer of labor, and he viewed the subject as an outsider. Nothing more dramatic has taken place than that spectacle in Lancashire. A woman declined to join a union in one mill, and in another a man and his wife declined to join. The other employes went on strike and the employers of all the mills locked their employes out. The result was that 100,000 workmen were deprived for weeks of their earnings and 50,000 more suffered. "I submit that a situation like that deserves thoughtful consideration. I do not think any man with a drop of red blood in him can help admiring the splendid character of those three who stood out for their right of a liberty of conscience. On the other hand the 100,000 strikers were fighting for what they considered right. After four weeks it was agreed to leave the controversy in abeyance for a year. When the three started their looms the others would not work and the three were forced to quit. That was wrong. St. Paul might have said of those three, They are right. All things are lawful, but they are not all expedient. The particular thing I want you to remember in your relations with labor is that the overwhelming sentiment is in favor of organization. You can't make men work any more than you can make employers employ. It seems to me that it behooves employers to deal with labor as organized." He thought that when stockholders organize and appoint a superintendent to deal with their men it is not logical to decline to meet or recognize representatives of the men. He said:

"I think if we can form the habit of looking at these questions from the human point of view it will help. If there is a little more of give and take it will benefit. Everything moves towards co-operation and organization. The struggle has been from the beginning for more freedom and liberty. It is true combinations are possible because individualism has been first established. I do not believe, as has been said, that the union has been swallowed by the Federation and the corporation by the trust."

Charles T. Johnson, director of the National Legal Reform Association, spoke on the subject of "Legal Reforms." He asked for the appointment of a representative to the Executive Council of his association.

Hon. Thomas Goldengay, of New Jersey, gave a talk on lien laws. He said New Jersey has considerable trouble over the lien law. He told a story to illustrate the situation in New Jersey. A farmer went away on a trip and told his hired man: "You raise the crops while I am away. Your share will be two loads and mine one." He came back after a year and asked, "Where is my share?" "Well, boss," the hired man said, "There wasn't three loads of anything; there were only two." He said the New Jersey dealers are all getting the third load. He has been seeking a better lien law in New Jersey, and feels it will be passed soon. The law as it stands now gives the dealer no protection whatever, as the contractor has the only lien. The speaker favored a national committee to look after a uniform lien law.

Mr. Adams, for the nominating committee, then reported, and the officers elected were as follows:

President, Charles Warner; Treasurer, Charles W. Classen.

For the Executive Committee: R. W. Kelly, W. D. Ray, L. W. McAtee, E. S. Walton.

Vice-Presidents: D. T. Hargraves, Helena, Mont.; C. J. Waterhouse, San Francisco; Frank H. Johnston, New Britain, Conn.; Chas. C. Bye, Wilmington, Del.; S. Dana Lincoln, Washington, D. C.; P. G. Hanahan, Atlanta, Ga.; H. H. Halliday, Cairo, Ill.; A. E. Bradshaw, Indianapolis, Ind.; Owen Tyler, Louisville, Ky.; E. H. Michel, New Orleans, La.; John J. Kelly, Jr., Baltimore, Md.; B. F. Marsh, Worcester, Mass.; S. R. Moorman, Grand Rapids, Mich.; John Wharry, St. Paul, Minn.; Howard McCutcheon, Kansas City, Mo.; James H. Allen, Lincoln, Neb.; Walter C. Schultz, Hoboken, N. J.; Henry Schaefer, Jr., Buffalo, N. Y.; George Gengnagle, Dayton, Ohio; J. N. Thayer, Erie, Pa.; Edward D. Allen, Providence, R. I.; A. C. Gower, Greenville, N. C.; W. T. Hardeson, Nashville, Tenn.; Lovell Marston, Houston, Texas; T. P. Jones, Wheeling, W. Va.; S. W. R. Dally, Seattle, Wash.; H. H. Plummer, Menasha, Wis.

The Banquet.

At the banquet a minister of the gospel electrified and entranced the diners by a flood of eloquence that lifted each one present out of the spirit of conviviality into the clouds and realms of spirituality. It was a modest man who did it, Rev. Howard J. Chidley, of East Orange, N. J., from whose eloquent lips came words that made every man who heard them better than he was before. They were words that sung home into the heart, words that appealed to manhood and inspired to better citizenship. It was the gospel of the Nazarene applied to the twentieth century.

The dinner was held in the Belvedere room of the Hotel Astor, a bower of entrancing lights and made specially beautiful for the occasion. In point of interest and brilliancy it was the crowning achievement of the National Builders' Supply Association's efforts since its organization.

President Charles Warner presided in a creditable manner, and during the dinner the banqueters entered heartily into the spirit of the occasion by singing the popular songs of the day, accompanied by an orchestra.

It was a fitting preliminary to the crash and thunder of oratory that followed, as the storm of the summer evening trails the beauteous sunny day.

Rev. Howard J. Chidley, East Orange, N. J., took the place of Rev. Warren Giles, who could not be present. The good man told a number of stories which kept the banqueters in good humor. He said a lot of hard names have been called, when if we understood things better there would be less hard feelings. We need a new chapter in the Acts of the Apostles, he said. Every age creates a new type of sin and needs new forms of treatment. He said crime, brutality, lust and grudges are dying out in America. The danger is that men will live at such a burning light that they will burn out to a

ROBERT W. LESLEY

PHILADELPHIA, PA.

cinder before the age of 40. We are in the forenoon of our life here, but many new types of sin are coming in resulting from our being thrown together more than we were in the early days. He gave instances showing how by new relations special forms of sin are created. It is not because men are so devilish today, but because they need a new system of ethics; vice is sinning against himself, but when a man sins against his neighbors he is hopeless. I can stand in my pulpit and denounce painted women, and my deacons come up and say, "Good, give it to them!" But when I say something about the sins of the Brooklynites and the Jerseyites they come up and say, "Oh, brother, stick to the gospel."

Another character of our sinning is its long distance. A man can touch a button in New York and fleece a man in San Francisco. Here is a man who will not murder outright, but he will kill babies by putting formaldehyde in their milk or poison whole armies by tainted meat. The modern sinner sins against the public. The type of sinning today is impersonal, and often corporate.

He spoke of competition, saying he could not agree with socialism, which would eliminate competition. We cannot have a perfect society till every individual is perfect—a man. He declared the rules of the game must be fair in the interests of society.

"The Legal Aspects of Association," was the subject of the Hon. George W. Alger's talk. He said what he had to say was on a broader phase of the topic. The present Congress is discussing it. We hammer Congress and we do not expect much, and we do not get much. This question of industrial politics is one that brings out two schools of thought.

He quoted Mr. Perkins, who said recently: "Why not regulate before we strangulate?" and President Taft, who said: "We got along without monopoly and we can get along with it." We know what cut-throat competition means. There is a way between socialism and cut-throat competition. We need the development of the co-operative spirit. We do not propose to ignore modern history. We have in our own country an example of co-operative government. We find co-operation in religious action, in charity and in education, but we find those who say it is a crime when applied to industry. The trade organization like this, which asks the right to do business decently, wants a chance to do business decently. You see this co-operation in the fraternal organizations, and everywhere it is in the air. I am not defending the trusts, I simply say the spirit of co-operation which is good in government is good in business. The crucial question is how we shall regulate that we shall ascertain reasonable rates by co-operation and be within the law. All we ask now is a Dr. Wiley on unfair competition. I believe the working out of this co-operative principle will be brought out and bring American industry into harmony with American law.

Former Secretary J. W. Wardrop was given an ovation when he arose to speak. He spoke of his pleasure at being present. The topic assigned to him was "Play the Game." The reason why passengers think it no wrong to beat the company is because they would beat the conductor if they could. Playing the game is the most serious matter that confronts the business man. The game is an honest endeavor to produce results in the field of endeavor. There has been more ruin through lack of preparation than any other cause. A college education brightens only the front. One of the requirements is initial ability, then preparation. Your knowledge will sour if you do not put it into effect. The next requirement is action and alertness. Another proposition in playing the game is manliness. There are men in business who are shy in honor and manliness, and who take an unfair advantage. No man can play the game alone. The effort of one is an inspiration to another, and the order given to one helps all. If you must carry a hammer, for heaven's sake nail, and don't knock. Team work is what we want. No one man can get everything. The man who wants everything will make excellent lard, when he dies. There are no better scouts in the world that the fellows of the N. B. S. A., but how you do fail to measure up to the cost. When the builders' supply men will pay the price to bring about better conditions we will amount to something, and not until then.

"The Business Man's Precipice" was the subject of William E. Carson, president of the National Lime Manufacturers' Association. He reviewed in a humorous way the speeches of the day's session and then launched into his subject. When fear is placed in business we must take notice. All business depends on credit. Credit is the business man's precipice. Credit is confidence inspired by financial strength and ability. It is an evidence of civilization and confidence between man and man. It is as ancient as civilized government. It is necessary and without it we could not carry on our great transactions of today. Most of our great enterprises are carried on under this system. Upon its proper usage depends the prosperity of every enterprise. So it is our duty to conserve. The National Citizens' League has been formed to prevent any repetition of such a panic as we had in 1907, from which we have not yet fully recovered. We know it was disastrous, though not so widely so as was feared it would be.

The Attendance.

American Sewer Pipe Co., New York City—John M. Campbell, A. J. Rooney.
Alden-Rukamp Company, Detroit, Mich.—C. A. Rukamp.
Assn. Metal Lath Manufacturers, Youngstown, O.—H. B. McMaster.
Alpha Portland Cement Company, New York City—L. H. Carr.
Blanc Stainless Cement Company, New York City—R. C. Videl, J. M. Carrere.
Best Bros. Keene's Port. Cem. Co., Medicine Lodge, Kans.—Roger Titus.
J. B. Blanton Company, Frankfort, Kans.—Scott Thompson.
Bradford Pressed Brick Co., Bradford, Penna.—E. F. Knight.

E. S. WALTON, YOUNGSTOWN, OHIO.

Jas. Brady's Sons Company, Bayonne, N. J.—Joseph Brady.
Brewster & Son, Ridgefield Pk., N. J.—Morton T. Brewster.
Buckeye Sewer Pipe Company, Akron, Ohio—Elihu Harpham.
H. W. Bishof Company, Boothbay Harbor, Me.—H. W. Bishof.
Buffalo Builders' Supply Co., Buffalo, N. Y.—Frank E. Greenan.
Samuel Cabot, Inc., Boston, Mass.—E. A. Foster.
Crescent Portland Cement Co., Wampum, Pa.—Chas. Schmutz, R. H. Hughes.
J. J. Clarke Company, New Orleans, La.—John J. Voelkel.
Cleveland Builders' Supply Company, Cleveland, O.—W. T. Rossiter.
Cook & Brown Builders' Supply Co., Oshkosh, Wis.—R. C. Brown.
DeFrain Sand Company, Philadelphia, Pa.—Henry A. Moore, Geo. D. Van Sciver, J. R. Bailey.
J. P. Duffy Company, Brooklyn, N. Y.—Stephen V. Duffy.
Dealer's Record, Chicago, Ill.—W. A. McCall.
T. D. Eichelberger's Sons, Dayton, Ohio—John W. Eichelberger.
Edison Portland Cement Co., New York City—Jarvis M. Hunter.
Excelsior Fire Clay Company, Lisbon, Ohio—W. O. Ogden.
G. D. Elwell, Albany, N. Y.—G. D. Elwell.
Fairmont Wall Plaster Company, Fairmont, W. Va.—J. R. Spease.
Fisher Lime & Cement Company, Memphis, Tenn.—W. M. Finley.
Fairview Coal & Supply Company, Detroit, Mich.—W. C. Houghton, H. S. Thompson.
Samuel H. French & Co., Philadelphia, Pa.—R. W. Hilles.
James C. Goff Company, Providence, R. I.—Chas. M. Kelly.
General Fireproofing Co., Youngstown, Ohio—R. C. Clark.
Jesse J. Haas, Washington, D. C.—Jesse J. Haas.
Houston Bros. Company, Pittsburg, Pa.—J. W. Windsor, Samuel M. Houston.
Hunt Metal Corner Company, Boston, Mass.—F. M. Johnson.
H. Houghton & Sons, Detroit, Mich.—C. L. Houghton, B. D. Enning.
Indianapolis Mortar Company, Indianapolis, Ind.—A. E. Bradshaw.
William G. Hartranft Cement Co., Philadelphia, Pa.—Washington Harder.
A. C. Horn Company, New York City—A. C. Horn.
W. G. Hartranft Company, Philadelphia, Pa.—H. M. Fetler.
Hackensack Coal & Lumber Co., Hackensack, N. J.—Elmer Blanolf.
F. Jahncke & Co., Inc., New Orleans, La.—Walter F. Jahncke.
John Jamieson, Rockaway Beach, N. Y.
Kelly Island Lime & T. Co., Cleveland, O.—Albert Gowan, Lawrence Hitchcock, Geo. J. Klamm.
D. J. Kennedy Company, Pittsburgh, Pa.—J. C. Adams.
Keystone Plaster Company, Philadelphia, Pa.—J. B. Vanderver.
David W. Lewis, Boston, Mass.—David W. Lewis.
Lehigh Portland Cement Co., Allentown, Pa.—Bert Swett, F. E. Paulson, S. B. Chittenden.
Lookout Paint Mfg. Co., Chattanooga, Tenn.—C. D. Sameul.
C. H. Little Company, Detroit, Mich.—C. N. Ray.
Maryland Lime & Cement Co., Baltimore, Md.—Chas. H. Classen, Henry W. Classen.
A. F. Marsh Company, Worcester, Mass.—R. H. Whitney.
L. W. Macatee & Sons, Houston, Texas—L. W. Macatee, T. Marsten.
Geo. N. McAlarney, Wilkes-Barre, Pa.—Geo. N. McAlarney.
Lewis McNutt, Brazil, Ind.—Lewis McNutt.
Otto Meyer, Edgewater, N. J.—Otto Meyer.
Moores-Coney Co., Cincinnati, Ohio—N. W. Coney.
Manchester & Hudson Co., Providence, R. I.—Edwin D. Allen.
Nebraska Material Company, Lincoln, Neb.—J. H. Allen.
Niagara Gypsum Company, Buffalo, N. Y.—M. A. Reeb, H. K. Hobart.
Nashville Builders' Sup. Co., Nashville, Tenn.—H. E. Richardson, W. E. Jordan.
N. W. Expanding Metal Company, Chicago, Ill.—J. A. Pfeiffer, C. O. Powell, Howard W. Foote.
National Builders' Sup. Co., Baltimore, Md.—J. J. Kelly, Jr., Harry P. Boyd.
New Castle Portland Cement Co., New Castle, Pa.—E. I. Phillips.
National Mortar & Supply Co., Pittsburg, Pa.—A. H. Lauman.
National Legal Reform Assn., New York City—Chas. F. Johnson.
National Retarder Company, Toledo, Ohio—A. H. Gallagher.
Ohio & Western Lime Co., Huntington, Ind.—Peter Martin.
O'Neill Lumber Company, Jersey City, N. J.—G. F. Farrell.
Peoria Fuel Company, Peoria, Ill.—W. W. Nicoll.
Portland Stone Ware Company, Boston, Mass.—Frank W. Clark.
Arthur N. Pierson, New York City—Arthur N. Pierson.
Pittsburgh-Buffalo Company, Pittsburgh, Pa.—James W. Wardrop.
G. B. Raymond & Co., New York City—A. S. Brockway.
Robinson Clay Products Co., Akron, Ohio—H. F. Rowse.
Rosslyn Supply Company, Rosslyn, Va.—W. W. Shearer.
ROCK PRODUCTS, Chicago, Ill.—E. H. Defebaugh, B. F. Lippold, Fred K. Irvine, Chas. D. Warner.
M. A. Reeb, Buffalo, N. Y.—M. A. Reeb, Jos. Andress, Harry Schaefer, Jr.
Roll Manufacturing Company, Cleveland, Ohio—L. G. Powell.
H. M. Reynolds Shingle Company, Grand Rapids, Mich.—H. G. Reynolds, J. Speed, John E. Bowen.
Rock Plaster Mfg. Co., New York City—D. L. Haigh, Wm. E. Carr.
Southern Fireproofing Co., Washington, D. C.—Wm. Huffman.
Schaeffer & Gengnagel, Dayton, Ohio—Geo. H. Gengnagel.
Sandusky Portland Cement Co., Sandusky, Ohio—E. Y. Bragger.
Security Cement & Lime Co., Baltimore, Md.—Harry B. Warner.
Walter C. Shultz, Hoboken, N. J.—Walter C. Shultz.
Stamford Masons Supply Co., Stamford, Conn.—E. H. Palmer.
Stowe-Fuller Company, Cleveland, Ohio—Chas. H. Nock.
Sheets Bros. Elevator Co., Cleveland, O.—A. A. Kumper.
Salmen Brick & Lime Co., New Orleans, La.—E. H. Michel, F. Salmen.
Trussed Concrete Steel Co., Detroit, Mich.—T. W. Murray.
Tompkins Bros., Newark, N. J.—Ambrose Tomkins, E. B. Wise, Chas. A. Ernstberger, O. B. Williams.
O. C. Thayer & Son, Erie, Pa.—Jas. N. Thayer.
Tews Lime & Cement Co., Milwaukee, Wis.—Aug. C. Tews.
Universal Port. Cem. Co., Chicago, Ill.—Edward M. Hagar, B. F. Affleck, F. E. Guy.
U. S. Gypsum Company, Cleveland, O.—B. W. McCausland, Jr., W. L. Krider.
Union Mining Company, Mt. Savage, Md.—Chas. H. Claiborne.
Winslow & Company, Portland, Maine—S. W. Hersey.
Waldo Brothers, Boston, Mass.—W. S. Simpson, Jas. G. Lincoln.
Wotherspoon Plaster Mills, New York City—C. A. Hooke.
Windsor Cement Co., Boston, Mass.—Ira O. Goodrich.
Wadsworth Howland Co., Boston, Mass.—Hector M. Gordon.
Youngstown Ice Company, Youngstown, Ohio—E. S. Walton, E. J. Holway.

The Intercity Building and Construction Company, Baltimore, Md., has incorporated with a capital stock of $2,000. Incorporators, Gabriel L. Rettaliata, Harry Hechheimer and J. Frank Fox.

The National Equipment Company, Springfield, Ohio, has been incorporated, with a capital stock of $100,000; to do construction and equipping buildings, negotiating contracts, etc.

The Davis-Speyer Company, of Hoboken, N. J., has been incorporated to do a general building, contracting and real estate business with a capital stock of $50,000. The incorporators are W. F. Martin, Newark, N. J.; M. Wagner, New York City, and C. L. Brown, Brooklyn, N. Y.

ILLINOIS RETAILERS

Annual Convention of the State Association Is Largely Attended at the Sherman House in Chicago.

The twenty-second annual convention of the Illinois Lumber & Builders' Supply Deallers' Association was held at the Sherman House, Chicago, Feb. 13, 14 and 15. The attendance at this year's session was fully up to that of former years and the enthusiasm was pronounced. The exhibits were more extensive than usual.

The Lehigh, Chicago and the Universal Portland cement companies had headquarters at the hotel and their rooms were visited by large numbers of dealers.

The convention was called to order Tuesday afternoon by President E. S. Cheaney, of Petersburg. The visitors were welcomed by George W. Hotchkiss. President Cheaney then read his annual report, and Treasurer J. W. Paddock read his report, showing a balance at the beginning of the year of $1,787.23; receipts during year of $6,240.07; or a total of $8,027.30. Disbursements were given under ten expense classifications, amounting to $7,306.40, leaving a balance on hand of $720.90.

George W. Hotchkiss then read a paper dealing with some of the things which menace the retailer. He said, in part:

"There is today perhaps no greater duty devolving upon the retail lumberman of Illinois, in common with the retail merchant in all other commodities, than that of giving publicity to his business. That the advantage of this is well understood and practiced by that class of merchants known as mail order houses is practically demonstrated in the hundreds of thousands of catalogs which are constantly distributed in car lots, and to all portions of the country, describing in more or less glowing and enticing terms the thousand and one articles which, although no opportunity is given for testing or otherwise knowing the grade or quality, are alluring in price, and notwithstanding they must be paid for in advance and the seller will take his own time for shipping, having the use of the customer's money for an indefinite period, have resulted in the building up of an immense trade, in at least one instance aggregating $60,000,000 a year, all of which trade has been enticed from the retail dealers in the neighborhoods of distribution.

"I make bold to assert that only the stupidity of the local retailers of the different classes of goods so sold, in not entering into closer relations with those parties and elements to whom and to which they must look for a successful business has led to this vast diversion of business from its legitimate channels."

Mr. Hotchkiss followed his written paper by request of the Chair with a short explanation of the purpose of the Federation movement, which he said was merely a getting together of the business men in the local community. As an illustration, Mr. Hotchkiss used the following:

About five years ago in a suburban town not far from here a few of the grocers and dry goods men got together to talk over common interests. There were about half a dozen; at the next meeting there were 25. That 25 brought 50. Within a year they organized an association with dues so low that they could not pay a secretary and a grocer acted in that capacity. In three years they had 300 members. Now they have 500, and at about this time are giving a banquet at $2.50 a plate. They have a paid secretary and the work is adding to the wealth and prosperity of the community. * * * This federation movement is simply an enlargement of that principle, promoting local associations and welding them into state and national organizations. This combined influence would be as useful as it was in Canada, where a thousand men went down to Ottawa where a dozen men would have had no influence. They succeeded in securing such a change in Canada's "Sherman law" as it then existed as to make it a very useful and yet liberal law.

The secretary then read a letter from Judge Grosscup explaining his inability to be present, and W. G. Hollis, of Minneapolis, Minn., secretary of the Northwestern Lumbermen's Association, was introduced as a substitute. Secretary Hollis gave a history and explanation of the government cases.

The Chair then called upon Harry A. Gorsuch, of Kansas City, Mo., secretary of the Southwestern Lumbermen's Association, who made a three-minute talk chiefly upon the same subject as Secretary Hollis. He said that lumber is being sold on a very low margin and large numbers are constantly retiring from the retail lumber business because they can not make a living in it. He read an Associated Press clipping dated February 7 mentioning Julius Rosenwald, of Chicago (president and manager of the Sears-Roebuck corporation), as a possible successor of Secretary Nagel of the Department of Commerce and Labor in the event of the latter's elevation to the Supreme Court bench.

Secretary Gorsuch corroborated Mr. Hollis' statement and the Chair then called for further remarks on this subject. Peter Beck, of the Beck Lumber & Coal Company, Harvey, Ill., stated it as his belief that it is a good policy to keep customers informed as to the real value of retail associations to the customer. The retail coal association has done some effective work in this line. He gave some experiences with customers, including a recent incident of a contractor who called his attention to the fact that advertised mail order prices were really no cheaper than the contractor could secure from any local yard. In another instance an advertiser brought in an advertisement of a large mail order house, offering yellow pine 2x4, 16 feet long, at $16. The customer had overlooked the fine type at the bottom, stating that the price was f. o. b. mill; and thought that freight was an unimportant item until advised that it amounted to about $6, making the delivered price higher than the same item was being sold for regularly in Mr. Beck's yard.

The remainder of the session was devoted to informal talks by various members.

Wednesday's session was large in members and interest. President E. S. Cheaney, of Petersburg, presided.

Miss Olive Kackley gave a couple of recitations, and the Chair then called upon Douglas Malloch, of Chicago, "the lumberman poet," who gave some stories and verses.

Secretary Jones read a communication from H. S. Stine setting forth his ideas on unifying and simplifying red cedar shingle grades; also a letter stating that at the Northwestern and Southwestern conventions the matter had been referred to the directors, who expected to make some investigations of it at the time of the retailers' convention at Seattle during the present week. The writer stated that he presumed the Illinois convention would wish to take similar action. Mr. Stine's paper went into the advantages of simplified methods at some length, as reducing manufacturing costs, reducing the stock necessary to carry by the retailer, and increased efficiency in the roof, which he stated was no better than the poorest shingles that went into it. The writer stated that he had received letters from hundreds of dealers favoring the proposed change. He furnished a parallel comparison of old and proposed rules showing that practically all changes were a raising of grades, except in A, where 15 per cent more shingles are allowed to vary one inch, and clear shims are admitted. On the other hand, the minimum in that grade is made three inches instead of two.

Mr. Hotchkiss inquired what the ideas of retailers were as to durability of sap. His own belief was it would last only four or five years. P. T. Langan said that in some cases contractors had laid out sap shingles and asked him to take them back. The Chair called attention to the proposed grade on clears as requiring shingles to be free from sap on one face, though sap is no defect in the lower grades. W. G. Hollis, of Minneapolis, Minn., secretary of the Northwestern Lumbermen's Association, stated that John W. Barry, of Cedar Rapids, Iowa, and J. R. Moorehead, of Lexington, Mo., were to attend the Seattle meeting and were asked to find out whether the movement for a change is a general one. If some manufacturers continue to make two thicknesses some retailers will continue to sell them, and make hard competition for the retailer who only carries one. The Chair spoke in favor of uniformity of manufacture; an average thickness is not sufficient if the bundle contains both thick and thin shingles.

The session of Thursday was given largely to consideration of needed revision of the lien law.

The Egyptian Products Company, of Wellsville, Ohio, has been incorporated with capital stock of $20,000 to deal in building supplies. The incorporators are John Davis, E. H. Cree, D. H. Kessell, W. E. Smith and J. T. Snowdon.

The Utterback & Harris Company, of Dublin, Tex., has purchased the retail yards of A. V. Mabry at Grapevine, Tex.

The Great Western Cement, Sand and Stone Company, of Esmond, Ill., has been incorporated with a capital stock of $200,000 to manufacture and deal in cement, lime, stone, sand, gravel, etc. The incorporators are William H. Ashelford, Thomas M. Cliffe and Peter Hyser.

NEW ORLEANS

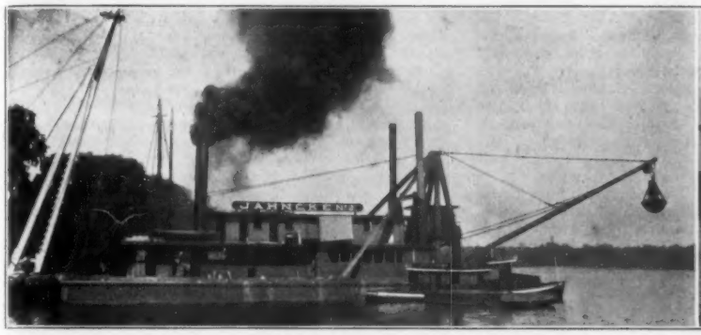
Building Material Dealers of the Southern City who are Winning Success in Their Business.

New Orleans, La., Feb. 15.—Builders' supply dealers of this city had a fairly satisfactory volume of trade the last twelve months. There was a falling off of business from two and three years ago, when the city enjoyed such activity in building operations which assumed the proportions very near to that of a "boom." A reaction was natural and when New Orleans settled down again to normal conditions, as it did last year, although building operations went steadily ahead, the demand for building materials fell off, but dealers admit was decidedly greater than any year before the boom period. This year opens with bright prospects. Many miles of streets will be paved; many miles of sewers will be laid; many other improvcements of public and private character are not only contemplated but actual preparations made for their inauguration, which will require enormous quantities of material which the dealers in builders' supplies must begin to furnish in the next few months.

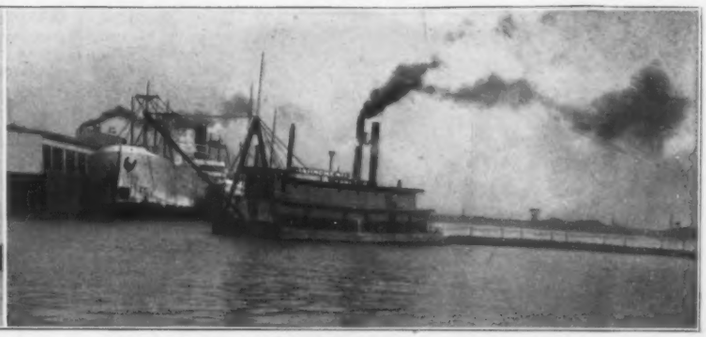
J. WATTS KEARNY & SONS' NEW WAREHOUSE. NEW ORLEANS, LA.

New modern business blocks, warehouses, docks and school houses are among the projects which have become a necessity to the greater prosperity New Orleans has enjoyed in the last decade. The natural gateway to the Panama Canal, the people of this city see the possibilities of the great opportunities within their grasp, and are determinedly reaching out to secure them.

Fritz Jahncke started nearly fifty years ago in New Orleans in the contracting business laying Schillinger's patent cement pavements, out of which grew the enormous business of the present business of the present day of the Jahncke Navigation Company and Fritz Jahncke, Inc. The officers of the first-named company are: Ernest L. Jahncke, president; M. L. Jahncke, vice-president; Paul F. Jahncke, Secretary, and Walter F. Jahncke, treasurer. Of the last named company Walter F. Jahncke is president, Ernest F. Jahncke, secretary, and Paul F. Jahncke, treasurer. The navigation company operates a fleet of tug boats, sand suckers, dredges and barges, nearly fifty in number. It produces and handles sandy gravel and shells and takes contracts for dredging and towing in the Gulf of Mexico, the Mississippi and smaller rivers contiguous to New Orleans. It operates six yards in various parts of the city, all located on some of the various railroads entering New Orleans with water fronts on either the Mississippi River, the new or old basin Canals; and two land plants at their sand and gravel pits some miles distant from the city located on the Illinois Central, the North Eastern Railway and the New Orleans Great Northern Railway. It owns a shipyard where all the boats and dredges used for carrying sand, gravel and shells and towing purposes are built, besides doing considerable outside work. Its boats go across Lake Pontchartrain, eighteen miles up the Tchfunctia river for white sand; up the Pearl river for a sand of reddish color and to Horn Island one hundred miles in the Gulf of Mexico, owned by the company, where it gets a pure silica sand, used for filtering purposes and in the manufacture of glass and white cement statues. It owns lands up the Tangipahoa river on the other side of Lake Pontchartrain, where its boats pump shells out of immense shell banks.



CLAM SHELL DREDGE DOING GOVERNMENT WORK IN LOUISIANA DISTRICT.



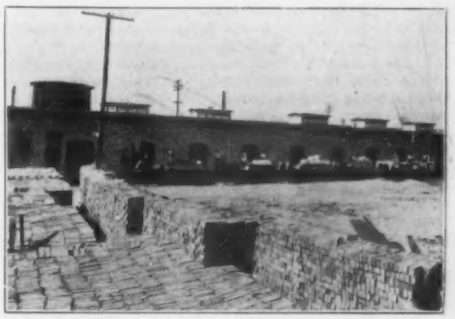
HYDRAULIC DREDGE AT FAMOUS STUYVESANT DOCKS, ILLINOIS CENTRAL TERMINAL.

The builders' supplies business of Fritz Jahncke, Inc., operates the six yards mentioned in conjunction with the navigation company, with three additional yards carrying in all a large stock of cement, plaster, lime, etc., for the retail trade of the city. The storage capacity of its various warehouses in these yards runs up to probably 20,000 barrels of plaster and cement. This, however, forms a small portion of the cement, plaster and other materials handled, distributed over a radius of 150 miles of New Orleans. The greater portion of cement and other building materials is sent to the various points of destination when it reaches the city without passing through its various yards. For the past 25 years and up to the present time it is claimed they are the only people in the south importing direct the celebrated German Dyckerhoff cement. They handle Lehigh Portland Cement, Dixie Royal of the Dixie Portland Cement Company of Chattanooga, import La Farge Non-staining Cement, Eglish fire-brick and German tile, which is used for sidewalks for names at the corners of the streets. Are agents for the lime in barrels and hydrate of the Lagard Lime Co., handle the Ashgrove lime, and hydrate of the Kelley Island Lime & Transport Company of Cleveland, O.; sewer pipe of the Blackman & Post Sewer Pipe Co., of St. Louis and are agents for the Cannelton Sewer Pipe Co., of Cannelton, Ind., and the La Clede Christy Fire Brick Company; the General Fire Proofing Company of Youngstown, O., manufacturers of metal lath, and handle wire lath of Roblien & Co., N. Y. City; have the agency for Best Bros. (Medicine Lodge, Kas.) Keen's cement plaster and J. B. King & Co.'s plasters of N. Y. City. They carry a large stock of common and pressed brick from Kansas and St. Louis. The yards of these companies have ideal switching facilities, being located on the Illinois Central, the North Eastern, the N. O. & Great Northern, The 'Frisco, the Louisiana Railway & Navigation Co., the Louisville & Nashville and the Public Belt Railway of New Orleans. They own twenty teams and often hire thirty for handling material to jobs in different parts of the city. Walter F. Jahncke reported last year's business slow but holding its own, while this year it has picked up splendidly and gives promise of being very active. The general offices of both companies are located at 814 Howard Avenue.

J. Watts Kearny was a member of the firm of Alfred Kearny & Co., which was established in New Orleans about sixty years ago and was the largest dealers in their line in this city before the war. It is still remembered by old timers that this firm successfully cornered the lime market in 1851, with four thousand barrels of lime. All the lime in those early days came from Maine and was shipped by schooners. In 1870 J. Watts Kearny joined forces with Jas. G. Clark doing a large business until 1886, when he started business under his own name. In 1891 Warren Kearny was admitted to partnership, and in 1894 E. Newton Kearny entered the firm, which then became known as J. Watts Kearny & Sons. J. Watts Kearny died in 1903 but no change was made in style of firm. The living members are connected with the Board of Trade, Contractors' and Dealers' Exchange, New Orleans Progressive Union, Merchants & Manufacturers' Bureau and other prominent business, financial and social organizations. The firm handles a full line of building, plastering and concreting materials, paints, leads, oils, varnishes, naval stores, glass, sugar, lumber and oil mill supplies. The concern has done a uniformly successful and large business during its more than sixty years' existence, and its present members are among the prominent New Orleans men in the business and financial world.

The location of office and store is at 419-423 Gravier Street, warehouses 514-524 S. Peter and 513-525 Fulton Streets, with a large brick and sewer pipe yard at the New Basin Canal and the Illinois Central Railroad, and own and operate a brick yard at Ponchetould, La., which has a capacity of two millions of brick a year. They are the agents for the Dexter Portland Cement Company, getting this cement through Samuel H. French & Co., Philadelphia; the Cleveland Expanded Metal Laths of the Gearry Iron & Steel Co., Niles, Ohio; Pyramid Hard Wall Plaster, manufactured exclusively by the United States Gypsm Co.; Medusa Water Proofing of the Sandusky Portland Cement Co., Sandusky, Ohio; St. Louis Fire Bricks of Parker Russell N. & N. Co., St. Louis, Mo.; Royal Eagle Belgian and Hercules German Portland Cements; "Creamoline" hydrated lime of the Langoicio Lime Works, Alabama; X X X Building and X X X Refinery lime of the Jesse Allen Lime Co., Burns, Tenn., and "Crown" hydrated lime of the Tennessee Cement & Lime Co., Nashville, Tenn. They are distributing agents for the Southern Gravel & Material Co., Brookhaven, Miss., Archer Daniels Linseed Oil Co., Minneapolis, Minn.; Heath & Milligan Manufacturing Co.'s paints, Chicago, Ill.; Chicago Varnish Co.'s varnishes, Chicago, Ill.; and "Burmith" roofing and siding. Their warehouse in this city has a storage capacity of 50,000 barrels of cement, plaster, etc. They own eight teams which are used for handling material to jobs and in busy seasons often hire twenty extra teams. Their trade extends principally through Louisiana and Mississippi. Their business last year was fair compared with other years and report that indications point to much activity in building circles the coming season.

TUG WALTER F. JAHNCKE AND TOW OF SEVEN BARGES OF GRAVEL GOING DOWN THE MISSISSIPPI.

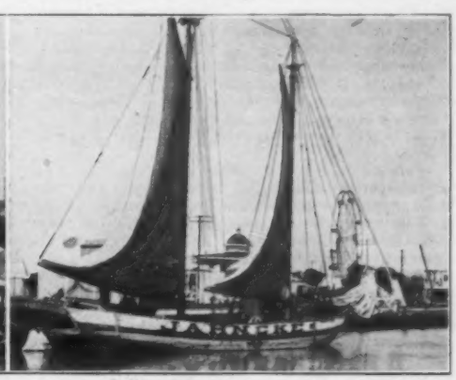


JAHNCKE'S CLAYBURN STREET YARD ON THE BASIN.

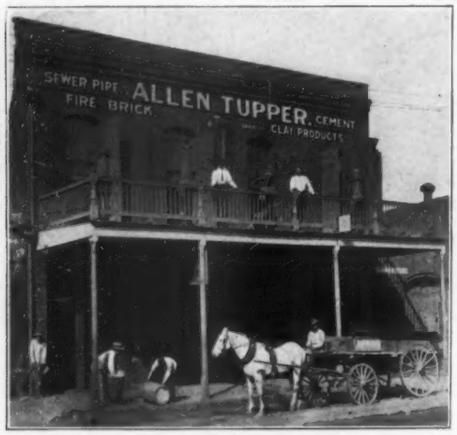
F. & J. Salmen in 1884 founded the business of the Salmen Brick & Lumber Co., Ltd., whose saw and planing mills, shingle mills, brick works and main office are located at Slidell, La. In New Orleans the company operates five yards; its North-Eastern yards at Press and N. Villere Streets on the tracks of the North Eastern R. R.; New Basin

JAHNCKE'S YARD, FOOT PETER AVENUE SHOWING DREDGE, BARGE AND BOAT.

SAND BARGE UNLOADING AT ONE OF JAHNCKE'S YARDS.



SAND SCHOONER GOING TO HORN ISLAND FOR SAND IN GULF.



STORE OF ALLEN TUPPER, S. PETER STREET, NEW ORLEANS, LA.

Yards at Julia and S. Liberty Streets; the Carrollton Ave. Yards at Carrollton Avenue and New Basin on the tracks of the Illinois Central, the Yazoo & Mississippi Valley and Louisiana Navigation Company Railways, and the Old Basin Yards at St. Ann and Old Basin, and Old Basin and Robertson. The company commenced selling builders' supplies ten years and handles Atlas Portland Cement, for which it is the local agent; the Bowden celebrated white lime of the Bowden Lime Works, Saginaw, Ala.; brick of the Sphar Red Pressed Brick Co., Maysville, Ky.; Legg Red Pressed Brick Co., Atlanta, Ga.; waterproofing compounds of the Hercules Waterproofing Co., Buffalo, N. Y.; cement of the Lehigh and the Kansas City Portland Cement Companies; Hood's Oriental brick of Mifflin B. Hood, Atlanta, Ga., with a complete line of builders' supplies needed by contractors and builders.

Its brick business is large and growing, turning out 275,000 building brick per day and 40,000 pressed bricks daily. It operates its own fleet, consisting of nine barges and four tug boats and two schooners, and has now under construction three more barges, and owns and operates 3 locomotives, 150 cars with 45 miles of railroad track. It has also under construction a continuous kiln 500 feet long for the manufacture of brick and hollow wall tiles, which when finished will double the capacity of the Glidell plant. Its lmber output is 175,000 feet of rough pine lumber and 75,000 feet of dressed lumber daily. Its exports of lumber are heavy, shipments being made to Colon, Panama, Porto Rico, Antwerp, Belgium, Manchester, London, Zuric, Portugal, Cuba, England. Its domestic trade extends within a radius of 200 miles of New Orleans. It has furnished 15 millions of brick for the building of the American Sugar Refining Co.; 23 millions of brick for the drainage and sewer systems of New Orleans, and many millions of brick for the principal modern buildings erected in the city the past ten years. It has now on its books orders to furnish 16 millions of brick, all to be used in New Orleans and its vicinity. It also has saw mills at Tickfaw and Onvill, La., and planing at the Carrollton Avenue Yard in New Orleans.

The officers of the company are: F. Salmen, pres.; J. A. Salmen, vice-pres.; A. J. Baldwin, Jr., secretary, and E. H. Michel, N. O. manager. The affairs of the company since Jacob Salmen's death have been under the management of Mr. Michel under whose guidance the business has grown rapidly. He is president of the New Orleans Builders' Material Dealers' Credit Association, president Retail Lumberman's Credit Protective Association, and was elected vice-president from Louisiana at the National Convention of the National Builders' Supply Association held in New York City, January 31, this year. The New Orleans offices are located at 716 Common Street, St. Charles Hotel Building.

F. Codman Ford, Inc., was established in New Orleans over a quarter of a century ago. The firm is among the largest and most successful dealers in building specialties in this city. Its main offices are located at 306 Baronne Street, and its warehouse is located at the corner of Calliope and Franklin Streets on the Illinois Central R. R. The storage capacity of this warehouse is approximately 10,000 barrels of cement and other building material. Its exhibit room is one of the up-to-date features in this line of business, showing every building material carried in stock, saving prospective purchasers much time in making selections. It is the agent in New Orleans for the following firms, and handles the product of the Universal Portland Cement Company: The Continental Portland Cement Company of St. Louis; the Dixie Rock Cement of the Chickamauga Cement Co., of Chattanooga, Tenn.; Victoria Keen's imported cements; architectural terra cotta of the Northwestern Terra Cotta Co., of Chicago; fire and enameled brick of every description and color of The Hydraulic Pressed Brick Co., of St. Louis; fire proofing in hard burned and porous tile for partitions of the National Fire Proofing Co., of Chicago; red, buff and glazed roof tiles, crestings, hip rolls and finials of the Akron Roofing Tile Co., Akron, O.; fire brick and fire tile, special sizes and shapes, wall coping, sewer pipe, flue lining, chimney tops, Bannon pavers and sidewalk bricks of the P. Bannon Sewer Pipe Co., Louisville, Ky.; ceramic tile in all sizes and colors of the United States Encaustic Tile Works, Indianapolis, Ind.; domestic and imported marble for exterior and interior work of The Henry Marble Co., Chicago; structural and ornamental iron and steel work of L. Schreiber & Sons Co., Cincinnati, O.; steel rolling doors, shutters and partitions—automatic self-closing, known as the abicas—of the Kinnear Manufacturing Co., Columbus, O.; fire windows of all kinds approved by board of underwriters made by Vaigtman & Co., Chicago; steel deformed bars, Havemeyer type of the Concrete Steel Co., New York City; diamond mesh and double diamond mesh metal plaster lath, expanded metal for reinforced concrete construction of the Northwestern Expanded Metal Co., Chicago; rutty metal wall plugs for fastening chair rails, base boards and mouldings for brick walls of J. B. Prescott & Son, Webster, Mass,; "Pittsburgh" galvanized steel wall ties for stone or brick of the McDowell Manufacturing Co., Pittsburgh; triangle mesh wire reinforcement fabric of the American Steel and Wire Co., Chicago; "Clip Bar" galvanized steel curb guard for concrete curb of the Clip Bar Manufacturing Co., Philadelphia, Pa.; "Bar Lock" vault lights, parcelite and galvanized frames, vault doors, etc., of the American Bar Lock Company, Philadelphia, Pa.; Blaine stainless cement of the Blaine Stainless Cement Co., Allentown, Pa.; and Hydrated Portland lime for masonry plastering, waterproofing concrete, etc., of the

COMMERCE STREET FRONT OF ALLEN TUPPER'S SOUTH PETER STREET WAREHOUSE, NEW ORLEANS, LA.

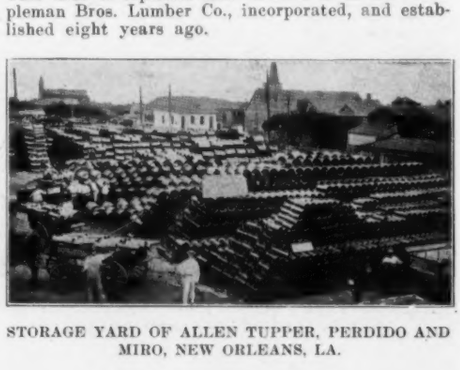
Chickamauga Cement Company, Chattanooga, Tenn. Mr. Ford reported a fair business for 1911, and stated that business this year is starting in well. As an illustration: The project of now building a ten-story structure of steel reinforced construction for storage of sugar; then the additional storage sheds on the river front to be erected by the Dock Board immediately, and a cotton storage warehouse of the latest improved fire proof divided sectional pattern for the storage of 250,000 bales of cotton at one time. This warehouse will be a safe and advantageous depository for those who may have cotton for storage until it is ready to be shipped abroad. The cost of these improvements will approximately cost $1,000,000. The Dock Board will build three more fruit unloading elevators which will double the capacity of the Southern American fruit product.

Allen Tupper is one of the large and successful dealers in builders' supplies in New Orleans. The business was established twenty-seven years ago. He operates three yards in different sections of the city. His main offices and warehouse are located at 625-627 S. Peters Street, extending through to 620-624 Commerce Street on the New Orleans Public Belt Track, one yard at Jackson Street and Claiborne Avenue on the Illinois Central Railroad and one at Perdido, Miro and Tonti Streets and the tracks of the Yazoo & Mississippi Valley Railroad. His business is principally in car load lots with contractors and planters, and his shipping facilities are of the best both by rail and water. He handles Vulcanite, Portland Cement; lime of the Southern White Lime Corporation, Spring City, Tenn.; sewer pipe, flue lining, wall coping and fire brick of the Southern Sewer Pipe Co., Birmingham, Ala., and Evans & Howard Clay Products Co., St. Louis, Mo.; sand, gravel and shells; fire clay products, fire proofing, ridge and drain tile. He furnished sewer pipe on Carrollton Avenue, where ten miles of this sewer pipe is laid—the largest sewer pipe contract on one street in New Orleans. Mr. Tupper reported business very quiet last year, but believes that prospects with the opening of the coming season are replete with encouragement and promise of much activity.

Some seven years ago the Carolina Portland Cement Company, whose main offices are located at Charleston, S. C., opened and operated yards in New Orleans, and is doing a large business. It has four yards. The main warehouse is at 20-37 Calliope Street, another at Calliope and Willow Streets, one at Willow and Clio Streets, and one at Carrollton Avenue and New Basin Canal. The first three yards have switch tracks running to the warehouses from the Illinois Central Railroad and the last from the Louisville and Nashville Railway Company. It handles its own cement exclusively; plasters from the Acme Portland Cement Company and the American Cement Plaster Co., both of Acme, Texas; its own lime, the Keystone brand, and that of the Standard Portland Cement Co., of Leeds, Ala.; sewer pipe, flue lining and wall coping of the Southern Sewer Pipe Company, Birmingham, Ala.; fire brick and fire clay of the La Clede, Christy Clay Products Company, St. Louis, Mo.; metal lath of the Berger Manufacturing Company, Canton, O.; wall colors, wall tints and waterproofing of A. C. Horn Company, New York City, for whom they are the agents here; common and pressed brick; electroid roofing; sand, gravel and shells and many other minor materials called for by contractors and builders. Its trade extends through Louisiana and Mississippi. It has just closed a contract for 100 cars of sewer pipe to be used on the Napoleon Avenue drainage canal in New Orleans. Delivery of sewer pipe will be made in course of a few months, and A. L. Patterson, the contractor, will complete this work next year. H. Ball Bowers, New Orleans manager of the company, stated a good business had been done in 1911 and business opens up this year in a way that indicates much activity in building circles for the coming twelve months. The company has excellent facilities for handling and shipping materials.

Peter Judlin, a prominent dealer in builders' supplies in New Orleans, has been in business for the last ten years and is located at 2325-2331 North Rampart Street. His warehouse is located on the tracks of the North Eastern Railroad and Press Street. He owns ten teams used for hauling material to jobs in different sections of the city. He deals in sand, gravel and shells, storing them at his sand yard at the head of the old Basin Canal. He owns the Schooner Proteus of 45 tons burden, which has a capacity of carrying 100 yards of this material. The schooner makes trips to Horn Island and keys in the Gulf of Mexico, loading sand and roofing shells. He handles Lehigh Portland cement; plaster of the American Cement Plaster Company, Lawrence, Kas., and J. B. King & Co.'s plasters, New York City; lime of the Ashgrove Lime & Portland Cement Co., Kansas City, Longview Lime Works, and the Saginaw Lime & Lumber Co., both of Birmingham, Ala.; sewer pipe of the Southern Sewer Pipe Company, Birmingham, Ala.; fire brick and fire clay of the Evans & Howard Clay Products Company, St. Louis, Mo.; imported English fire brick, metal lath and other lines of builders' material needed by the contractor and builder. Mr. Judlin reported business dull last year but believes that prospects for this year are bright.

Templeman Bros. commenced handling builders' supplies a little over a year ago and have become prominent in this line of business in New Orleans. This firm is separate and distinct from the Templeman Bros. Lumber Co., incorporated, and established eight years ago.



STORAGE YARD OF ALLEN TUPPER, PERDIDO AND MIRO, NEW ORLEANS, LA.

make a number of improvements by building warehouse and sheds for storing cement, plaster, sewer pipe, etc. They handle Lehigh and other Portland cements; plaster of the American Cement Plaster Company of Lawrence, Kas.; lime of the Lagard Stone & Lime Company, Longview, Ala.; sewer pipe, fire brick, fire clay, wall coping; Beaver board of the Beaver Board Company, Buffalo, N. Y., for whom they are the sole distributors in this territory; common and pressed brick of the Day Brick & Tile Company; sand gravel and shells. L. W. Templeman is the secretary of the New Orleans Building Material Dealers' Credit Association, which has eliminated many annoying features in the trade. Mr. Templeman reports business very satisfactory last year.

One of the large and old concerns in New Orleans dealing heavily in a full line of builders' supplies is that of the J. J. Clarke Company, Ltd. The business was founded by J. J. Clarke way back in the '40's. The office and store of the company are located at 1111 Julia Street, with a large storage yard and stables in the rear. Another yard and warehouse are located on Julia Street the New Basin Canal and the tracks of the Louisiana Railway and Navigation Company. After Mr. Clarke's death the company was incorporated in 1897 with C. Taylor Gaucke president and treasurer; Jas. A. Gauche vice-president and J. J. Voelkel secretary and manager. The greater part of the material handled does not pass through their warehouses or yards, being shipped to final points of destination direct from cars and ships. The company owns twenty-five teams for hauling material to jobs in the city and during the busy seasons often hires as many more. It is the agent of Alpha Portland Cement for the State of Louisiana; handles the plaster of J. B. King & Co., of New York City; has the agency for the product of the Rock Plaster Manufacturing Company of N. Y. City; has the agency for the lime of the Gager Lime & Mfg. Co., of Sherwood, Tenn., the agency of the Ashgrove Lime & Portland Cement Co. of Kansas City, Mo., and the agency of the Longview Lime Works of Birmingham, Ala.; sewer pipe of the St. Louis Product Co.; expanded metal of the Northwestern Expanded Metal Co., of Chicago, Ill., and the Clinton Wire Cloth Co., of Clinton, N. Y.; fire brick, fire clay, etc., of the St. Louis Vitrified and Fire Brick Company, St. Louis, Mo.; the product of the American Cement Plaster Company of Lawrence, Kas.; English tile and fire brick; corner heads of Knapp Bros., Chicago, Ill.; common brick made along the Illinois Central Lines in Mississippi; sand, gravel and shells; hair of the Illinois Leather Company, Chicago, Ill., and wood laths of the Genesee Lumber Company, Genesee, La. Mr. Gauche reported the company had had a good year in 1911, less in volume of trade, but that there was more money in it. He is looking for improvement in business in these lines for this year.

Victor Demoruelle in 1835 founded the business of the present firm of James Demoruelle & Sons, who are dealing in a complete line of builders' materials. Their office, warehouse and yards are located at 1025 Toulouse Street, near Rampart Street. They operate two landings or yards at the head of the old Basin Canal; own and operate two schooners which carry brick, lumber and sand, and operate a brick yard located near Covington, La., which has an output of six million of common building brick. Their total warehouse storage capacity is approximately 10,000 barrels of cement, and own twelve teams used for promptly hauling material to jobs in different parts of the city. They handle Lehigh Portland cement; are agents for the plaster of the United States Gypsum Company; Alabama lime; sewer pipe of the Chattanooga Sewer Pipe Company, Tennessee; sand, brick, oil, turpentine, metal lath and roofing slates. Their trade extends through the States of Louisiana, Alabama and Mississippi, but the greater part of it is local. Their business was good last year with the exception of the rainy months last fall.

The Falvy-Wilson Company, Ltd., at 528 Baronne Street, was established in 1897. This company is the largest dealers in mantels, electric lighting fixtures and floor tiles in the South. Its show rooms on the first, second and third floors are among the finest in the country and are models in tasty arrangement in exhibiting electric fixtures and mantels all tiled up with appropriate fireplace trimmings, as they appear in residences when set up. In these show rooms some 125 different patterns of mantels and as many more different patterns of electric light fixtures are carried. They vary from the simple to the most ornate and expensive designs called for. When lit up with hundreds of electric lights, these show rooms are perhaps the most striking and beautiful of any on two continents. On the fourth and fifth floors are the working shop and storage room. The company imports large quantities of English quarry tile direct from Liverpool and carries a very large stock of New Jersey and Ohio tiles which New Orleans architects specify in buildings they erect here. It is one of the most prosperous and popular concerns in this city and is an important factor in building circles here. The officers of the company are: T. R. Falvey, president, and Samuel Wilson, secretary and treasurer.

WEST COAST RETAILERS.

San Francisco, Feb. 10.--The building material market on the Coast has not gained any great impetus since the holiday season, but new business is coming out fully as well as could be expected at this season, and altogether the situation in California is highly encouraging. In San Francisco building permits for January reached a total of $1,870,617, compared with $1,207,429 for December, and $1,617,608 for January of last year. The figures were also larger than for the same month of 1910, and the best since last August. Los Angeles shows a gain of over $1,000,000, and San Diego also made a material gain, indicating a decidedly healthy condition in the southern part of the state. The northern cities made rather a poor showing, but this may be attributed to adverse weather conditions.

The gain in San Francisco was made in spite of the fact that some of the largest plans have been temporarily held up, and will probably come out in the next few weeks. Reinforced concrete appears to be making some headway, as this material will be used on the large Hale Bros. department store at Fifth and Market streets, and the Regents hotel on Sutter street, first designed for steel frame, is also being figured in concrete. The large concrete pumping station for the city's fire protection system, at Second and Townsend streets, is about complete, and bids have just been taken on a similar station on the Fort Mason reservation. Aside from building, there is a lot of local sewer work to be done, and as soon as the weather settles there will be a large amount of new sidewalk work in the outskirts of San Francisco and in suburban towns. The first grading contract for the Exposition will be let very soon, but actual building is still delayed. On March 28 an election will be held here to decide on the issue of $8,500,000 bonds for the erection of a new city hall on the old site, and the acquisition of adjacent property for the proposed "civic center."

E. H. MICHEL, NEW ORLEANS, MANAGER SALMEN BRICK & LUMBER CO., NEW ORLEANS, LA.

The Builders' Exchange, of Oakland, Cal., held its annual banquet on the evening of Jan. 6, with more than 300 members present, Robert Howden acting as toastmaster.

S. F. Morrill, a pioneer building contractor of Oakland, died Jan. 6 at his home in that city. He was 68 years of age, a native of Canada. He entered the contracting business in Oakland about 1865 and supervised the construction of many of the largest buildings of that time.

W. S. McLean, of the Holmes Lime Company, says: "Our trade in Diamond finishing lime holds steady, keeping fully up to our supply and taking all of our output of this material, which is the highest priced barrel lime in this market. Our trade in brick lime has been moderate, owing to the quietness in this line of work during the rainy months. Our Vigorite brand of hydrated lime is quite active at this time, being in good demand for soil fertilization, as well as for waterproofing concrete. Our trade in Ione, Cal., fire brick and clay has increased in the last two months. Our Portland cement business has been only moderate of late, owing largely to the fluctuating prices and unsettled market conditions, as well as the natural quietness of demand in the winter months. Our plaster trade at present is quite active. In addition to supplying United States Government buildings on Angel Island, we are supplying all the plaster for the new Bankers' Investment building on Market street, the plastering in which is being done by Smythe Bros."

Harry M. Maxwell, president of the H. M. Maxwell Quarry Company, operating at Stege, Cal., died suddenly of heart failure in Oakland, Jan. 16. He was 52 years old, and became connected with the Stege Quarry Company ten years ago, giving his own name to the concern soon afterward.

A. J. Washburne, superintendent of the large quarry started at Exchequer, Cal., by the Yosemite Stone Company, was in San Francisco about the middle of January. He reported that the working tunnel had been completed, and that as soon as new motors had been installed crushing operations would be commenced.

The Natomas Consolidated of California, who operate one of the largest crushing plants in the Sacramento valley, are preparing to put up storage bunkers at Marysville, Cal., where a retail business will be conducted.

The Peerless Brick & Artificial Stone Company, recently organized at Los Angeles, Cal., has its factory on Slauson avenue, that city, about complete, and will have a daily capacity of 40,000 concrete brick. C. A. Conlin is general manager, with offices in the Lissner building.

Hall & Courtney are preparing to install a plant for the manufacture of concrete products at Eugene, Ore.

The Imperial Valley Concrete Company, El Centro, Cal., is working on a large sewer extension at Brawley, Cal.

W. S. Bloyd, a concrete contractor of Hanford, Cal., is having a very busy season with sidewalk work.

The Hobart Sand & Gravel Company has been incorporated at Los Angeles, Cal., with a capital stock of $10,000, by R. G. and C. L. Edinger, Mrs. W. A. Barrington, D. T. Rose and H. A. Chamberlin.

The Seattle Sand & Gravel Company has been incorporated at Seattle, Wash., with a capital stock of $6,000, by W. E. Blaikie and others.

Building contractors from all parts of the Sacramento and San Joaquin valley will meet at Sacramento, Cal., March 7-9, for the purpose of organizing a state contractors' association.

The Mulholland Construction Company of Kansas City, Mo., has been incorporated with a capital stock of $8,000. The incorporators are J. W. Mulholland and C. W. Culberson.

The Hodges Construction Company of Springfield, Mo., has been incorporated with a capital stock of $8,000. This company has been granted permission to do business in Texas with principal office at Fort Worth.

The Amato Construction Company of Cleveland, Ohio, has been incorporated with a capital stock of $10,000. The incorporators are W. H. Cletzer, Walter A. Bennett, Vincent Zmunt, A. Steep and J. R. Zmunt.

The Diamond Construction Company of Akron, Ohio, has been incorporated with a capital stock of $10,000. The incorporators are Charles W. Hawkins, Ralph S. Hamlin, Frank R. Wohlfeld, Charles E. Smoyer and Katherine Wohlfeld.

The McGuire Brothers Company of Rockford, Ill., has been incorporated with a capital stock of $60,000 to do general contracting and engineering business. The incorporators are William F. McGuire, Charles C. McGuire, Bert A. McGuire and Walter J. McGuire.

The Harvey Coal and Lumber Company of Harvey, Ill., has been incorporated with a capital stock of $50,000 to do contracting, building and construction business. The incorporators are Theodore A. Peterson, Alfred G. Foster, Susan K. Peterson and Alice R. Foster.

The Dallas Builders' Exchange, of Dallas, Tex., elected officers as follows: Samuel Nesbit, president; Herman Brans, vice-president; L. R. Wright, treasurer, and J. Lee Jackson, treasurer. The following constitute the new board of directors: H. J. Curtis, J. W. Slaughter, W. R. Hatcher, Owen Hughes, George Sonnefield and Alex Watson. J. M. Harry was elected sergeant-at-arms.

PHILADELPHIA RETAILERS.

Philadelphia, Pa., Feb. 16.—The business in building supplies for 1911 shows a large amount of material used, but the bulk of the buildings were of the two-story dwelling kind, in which cement is of minimum importance. It is realized now that this class of building work has been carried on far in excess of actual demand, in consequence of which prospects in this quarter for 1912 are less encouraging. It is believed, however, that heavier construction work, such as manufacturing plants, club houses and hotels, will be on the boards, which will give an impetus to the cement industry of which a considerably reduced activity is admitted during the last year.

The Engineers' Club of Philadelphia held its regular meeting January 20, Vice-President Hewitt presiding. After transacting routine business, Mr. Henry Japp, visitor, presented the paper of the evening, entitled, "Subaqueous Tunneling," which was discussed by several of the members. On motion a vote of thanks was extended to Mr. Japp. The annual report of this association for the year 1911 shows a membership composed of honorary, 4; active, 453; associate, 66; junior, 64. Total, 587.

The thirty-third annual meeting of this association was held on February 3, President Henry Hess in the chair. After the reading of the minutes of the previous meeting the teller's report followed, which declared the following new members elected: Active, H. Gordon Hinkle; associate, Charles F. Morrall; junior, Charles W. G. Haydock, Robert A. Hentz and William H. T. Thornhill.

President Hess then delivered his annual address. Following some routine matters the tellers of election announced the following officers elected for 1912: President, Henry Hess; vice-president, Charles F. Mebus; treasurer, F. H. Stier; secretary, W. Purves Taylor; directors, H. C. Berry, B. A. Haldeman, S. M. Swaab and D. Robert Yarnall.

George F. Cofflin, with a claim of $7,977.26, filed a petition January 31 to have the Blount Mountain Portland Cement Company, of Nazareth, adjudged an involuntary bankrupt.

Application was made in the United States District Court by Frank G. Thompson, of Montgomery county, and Joseph S. Lovering, of Philadelphia, on February 6 for the appointment of receivers of the American Cement Company. After a hearing Judge McPherson appointed Sidney W. Keith, Robert W. Lesley and John Scott, Jr., as receivers, fixing the bond at $20,000. The bill states that the present situation was brought about by the condition of the cement industry, which is such that adequate prices cannot be obtained on account of overproduction and too much competition. The purpose of the receivership is to avoid the crash which would follow the filing of claims about to mature and the severing of the relationship of the several subsidiary companies. The American Cement Company controls nine subsidiary concerns, holding the majority of stock. These are the companies dominated by the defendant corporation with the stock held:

1,000 shares of Lesley-Trinkle Company, value at	$100,000.00
2,650 shares Reliance Cement Company, valued at	132,500.00
10,000 shares common stock of the Reliance Cement Company, valued at	500,000.00
219 shares North American Portland Cement Company, valued at	21,997.95
1,155 shares Norfolk Portland Cement Company, valued at	115,500.00
3,367 shares common stock Norfolk Portland Cement Company, valued at	336,700.00
800 shares Vindex Land Company, valued at	80,000.00
900 shares United Building Material Company, valued at	45,000.00
First mortagage 6% bonds of Norfolk Portland Cement Company, valued at	1,500.00
Collateral trust notes of Norfolk Portland Cement Company, valued at	25,000.00
1 share North American Portland Cement Company, valued at	100.00

A report from Norfolk states that the Norfolk Portland Cement Corporation, a subsidiary of the American Cement Company, has filed a petition in voluntary bankruptcy with listed liabilities of $723,547 and scheduled assets of $773,777. Receivers Griffith, Rumble and Davis have taken charge under a bond of $200,000. Of the bonded debt $283,000 is in first mortgage securities payable November 1, 1929, with the Trust Company of North America, at Philadelphia, trustee, and $200,000 in second mortgage securities payable March 1, 1931, with the Commercial Trust Company, of Philadelphia, trustee.

Robert W. Lesley, of the receivers, is said to have stated that until the affairs of the corporation had been carefully gone over no announcement would be made.

Robert Buchanan, a widely known builder, died January 10 of heart trouble.

Bernard U. Farren, contractor, died January 21. Mr. Farren, who was widely known, performed the difficult engineering feat of roofing the Hoosac tunnel, built several railroads in Central Massachusetts, dammed the Connecticut river at Furner's Falls and built the Chestnut Hill reservoir in Boston. He was 84 years old.

Gustave A. Widener, contractor and builder, died February 7 of heart trouble. He was 63 years old.

The Delaware River Construction & Contracting Company, capitalized at $100,000, was chartered under New Jersey state laws January 13. Incorporators, T. McKennon, F. S. Mell, E. R. Landers, Floyd H. Bradley.

The Karthaus Fire Brick Corporation, Clearfield, Pa., was incorporated under Pennsylvania state laws January 23. Capital, $60,000.

The West Shore Trap Rock Company, Morristown, N. J., was chartered under New Jersey state laws January 23. Capital, $100,000.

The American Poured Concrete Steel Molds Corporation, Washington, D. C., obtained charter under Delaware state laws January 25. Capitalized at $50,000.

The Central Engineering Company, New York, was incorporated under Delaware state laws January 30. Capital, $10,000.

The Waynesboro Brick & Supply Company, Waynesboro, Pa., was chartered under Pennsylvania state laws February 2. Capital, $50,000.

LOUISVILLE RETAILERS.

Louisville, Ky., Feb. 17.—When the building world itself is laboring under difficulties because of the weather it naturally follows that the building supply trade is threatened with innocuous desuetude, so, of course, there has been scant activity in local building supply circles during the past month. But when building prospects are as bright as they now are in Louisville, the inevitable sequence is a future boom in the supply trades which will more than compensate for any unavoidable depressions which arise from zero weather and plenty of snow.

No less an authority than Building Inspector Robert J. Tilford has stated that 1912 will rank fully as fine as 1911 in the annals of Louisville builders. In view of the fact that 1911 was the biggest and best year ever known in the Gateway City, so far as new skyscrapers, hotels, theaters and residences were concerned, this prediction carries "some" weight. It means that contractors, builders and allied branches of the industry are due to enjoy another record-breaking business year.

In January, 1912, an aggregate of $188,563 worth of building permits was applied for in Colonel Tilford's offices. In January, 1911, the total valuation of permits issued amounted to $133,817. It is evident that last month provided something like $50,000 increase in comparison with the initial period of the finest building year in the city's history. That counts for something, although even the most optimistic members of the trade believe that 1912 will fall a trifle short of its predecessor in attaining an aggregate of $6,500,000. It will ascend above the $5,000,000 mark, it is thought, and that should provide ample business for everybody.

"Our company has been progressing fairly well during the month, which is naturally one of obstructions in a business way," said L. M. Rice, Jr., of the Central Paint & Roofing Company. "We have the finest chances for a record-breaking spring and summer that have ever been evidenced in Louisville, in my opinion."

Sam L. Troxell & Co. are getting a start on a crowded schedule of work which has been delayed for a couple of weeks by bad weather. The Rugby Distilling Company's new warehouse in the West End is being roofed by the Troxell company, providing one of the biggest jobs of the early season, while several hundred square feet of underwriter's glass has been installed over a big skylight at the Mengel Box Company's big factory at Twelfth street and Ormsby avenue.

The National Roofing & Supply Company has handled sufficient business during the month to compose a reasonably good aggregate for February and, with the opening of March, unusually fine demand for various National building specialties is expected. Manager Edward Streicher is disposed to view the outlook for spring and summer very optimistically.

John S. Culley, of the Culley Cement Block Company, reported a constantly increasing demand for Kosmos Portland cement in retail quantities. This year will be the biggest one in the history of the company in this line, said Mr. Culley.

The Bates Roofing Company has been incorporated in Louisville with a capitalization of $600 to engage in the manufacture of roofing paint. The incorporators of the new concern are James H. Bates, W. H. Bates and Clara Bates.

The Lexington Woodenware Company, composed of Hanson Thomas and other well-known building supply men of Winchester, Ky., has been removed to Lexington, Ky., for the purpose of doing business in a bigger field. It is incorporated with a capitalization of $25,000. It will handle roofing especially.

PITTSBURGH RETAILERS.

Pittsburgh, Pa., Feb. 17.—The retail yards have been frozen in, for the most part, since January 1st. Foundation work has been almost out of the question except when absolutely necessary. Shipments and receipts have accordingly been very slow. The yards found many less in their stocks in January inventory and have been placing orders to fill these in before the spring trade opens. The outlook for building is decidedly improved. The general business is much better and steel plants are running fully 85 per cent. There is going to be a large amount of city work and this, with the big lot of road work to be constructed in western Pennsylvania, gives the retailers an idea that 1912 will be decidedly a better year than last.

The Pittsburgh city government is talking about building a big warehouse on the Allegheny river, between Eighth and Ninth streets, in order to house a large amount of supplies, some of which it has always bought before from retail yards. This is in line with the movement encouraged last year by Director Howard B. Oursler, of the supplies department, who believes that an enormous saving can be made in this way to the city.

The Builders' Exchange League at its annual election in January named these officers: President, Robert K. Cochran, of the G. A. Cochran Company; first vice-president, Samuel P. Trimble, of William R. Trimble & Sons; second vice-president, A. Rasner, of the Rasner & Dinger Company; secretary, T. W. Jones, a well-known stair builder; treasurer, T. J. Hamilton; executive clerk, Capt. J. A. Brown. This, by the way, is Mr. Hamilton's twenty-ninth successive year as treasurer of the exchange.

The Manufacturers' & Contractors' Club met January 29th in the Lewis Block and appointed a committee to solicit new members. The club is in a fine condition and its recent banquet was a decided success.

There is a strong probability that the long-talked-of Cleveland-Pittsburgh trolley line will be consummated this year by means of some connections that are very sure to be made. If this is the case a large amount of supplies will be shipped from Pittsburgh for use along the line.

Councils have recommended an ordinance for a $130,000 bond issue for placing the ten new filter beds at the Aspinwall filter plant in condition for use. Work will be started as soon as the weather breaks if the issue carries.

County commissioners are still considering two sites for the south side tunnel. It is pretty certain that one of these locations will be decided on shortly and that work on the actual improvement will be started this summer.

The Pittsburgh Railways Company is also arranging to do an enormous amount of street improvement work when the weather breaks.

Pittsburgh pavers are much interested in the report that the Convention of Engineers, which will meet here next year at the invitation of N. S. Sprague, superintendent of the Bureau of Construction, will have for its chief topic the discussion on the introduction of more expensive paving. This society has been organized in order to adopt a system of uniform specifications for street paving in the larger cities. Mayor Magee is strongly in favor of a revolution in this respect in Pittsburgh, as is also Public Works Director Joseph G. Armstrong.

The Borough of Aspinwall, ten miles up the Allegheny river, has created a public works department. A lot of work is going to be done this spring as a result and retailers are looking to that section for some nice contracts.

Cook & Parsons have established a very nice lumber yard at the foot of Second street, south side. Their old yard in Hazlewood will be continued.

The Canonsburg Lumber Company is a new retail lumber and builders' supply concern at Canonsburg, Pa., organized by Houston P. Weaver, Andrew J. Stewart and George Frank Hoge, of that place.

The plant of the Green & Evans Lumber Company, on Kiser avenue, West Liberty Borough, was damaged $30,000 by a fire February 9th. The concern had a big retail trade in greater Pittsburgh.

The recent convention of the Retail Lumber Dealers of Pennsylvania in this city was a decided success. About 100 were in attendance. The sessions were held January 25th and 26th at the

MOTOR TRUCKS.

Economy of Their Use in Hauling Heavy Loads as Required by Dealers in Building Supplies.

The motor truck problem is one that constantly confronts the building supply dealer. In these days of sharp competition and small margins of profit he has to figure more on his costs and maintenance charges than he did years ago. Profits are not all made in buying low and selling high by the yard stick method. It is necessary to take into account more important things, the running expenses.

The motor truck comes in here as one of the principal factors. The large dealers in building supplies everywhere are studying the question and solving the problem for themselves. Local conditions as to pavements, length of haul, hills, long and short haul, have much to do in the selection of the truck. For a number of months ROCK PRODUCTS has been conducting an educational campaign, and a lively interest has been awakened.

Rex Beresford, an expert on the subject, has the following to say directly bearing on the building supply dealers' use of the motor truck:

The rock product man's load is always a heavy one. Whether it be building stone, crushed rock, sand, cement, concrete blocks or quarry, crusher or manufacturing machinery. Transportation of the product is one of the big problems that comes up that must be solved before any property, such as the quarry, crushing plant, sand bank or pit can be worked profitably.

Team hauling always has been unsatisfactory because of the small loads hauled, the high cost of good teams and their upkeep. Coupled with these is the slowness of the team hauled vehicle.

Many concerns in the various branches of the trade are now adopting the motor truck in place of the old teams and are finding it a real solution of the local transportation problem. In the first place the motor truck handles big loads and heavy loads and does it quickly and easily. The motor truck that can travel at from 3 to 12 miles per hour and is built to haul 3 to 4 tons on its own body and at the same time able to pull a couple of trailers with a 2 or 3 ton load apiece can handle a lot of rock or sand in a day.

There are just about three essentials to profitable motor truck hauling. There are heavy loads, long hauls and few stops or long waits in loading and unloading. Of course any of these may be absent and still the motor truck be profitable because of better service to customers, "dependability" or any or all of a dozen other factors that may come in. But with the three essentials a motor truck properly run can always transport loads more cheaply than can teams.

The rock products man usually has all three of these conditions in favor of the truck. The load is always heavy. Loading devices and chutes and dump sides or bodies on the trucks and trailers make long stops unnecessary for loading or unloading. The hauls are seldom so short as to make motor truck hauling unprofitable, when the other two factors are considered. Usually the haul is long enough to make trucking the best method of transportation on that count alone.

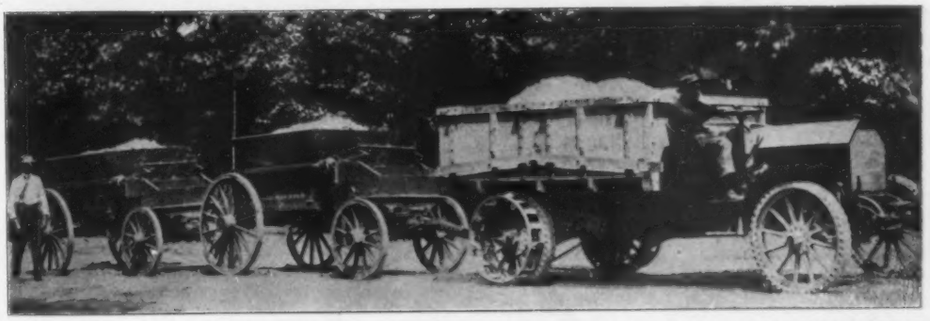
The motor truck by making it possible to haul big loads quickly is a big advantage in hauling material to contracts in nearby towns or in the country around. An immense amount of material can be transported in a short time by one motor truck. For instance, the Clark Lumber Company, of Grinnell, Ia., use an Avery 3-ton truck fitted with special perforated cast steel rim wheels for country roads. They hauled during the summer of 1911 over 4,000 tons of gravel an average distance of over four miles to bridge and other county contracts.

Below is given their report for one day's hauling. This shows the condition under which the hauling was done and the cost also:

Weather	Hot
Road	Good dirt road
Trips	Two
Distance	13.3 miles
Miles loaded	26.6 miles
Miles empty	26.6 miles
Total mileage	53.2
Tonnage of gravel	8.4
Ton miles traveled	111.7
Total time	10 hours

TABLE OF COST.

Gasoline—16 gal. at 11c a gal	$1.17
Motor oil—3 gal. at 40c a gal	1.20
Hard oil—½ gal. at 20c a gal	.10
Grease	.05
Driver's wages	2.90
Helper's wages	1.90
Total cost	$7.32



ELLIS PARK STONE COMPANY HAULING 9¼ TONS OF CRUSHED ROCK ON A 3-TON AVERY MOTOR TRUCK AND TWO TRAILERS.

It would have taken at least four or probably five teams and wagons and their drivers to have made the same deliveries in the same time. The heat would have interfered seriously with the teams. On many days of last summer it would have been impossible to make such a trip with teams. The truck ran just the same, making the regular trips whether the day was hot or cool. The cost with their teams and drivers would not have been less than $3.50 per team, or $17.50, and this is a mighty conservative estimate.

Properties too far from railroad to make their working profitable where team hauling has to be depended upon often can be handled successfully through the use of the motor truck. Contracts that could not be handled with teams because of distance can be filled easily by the use of the truck.

The Ellis Park Stone Company, of Cedar Rapids, Ia., use a 3-ton Avery truck for hauling crushed rock to road or to construction contracts throughout the city and in the country around. With the truck and trailers they haul over nine tons at a trip. With the present heavy use of concrete for farm buildings, silos, water tanks, floors, etc., there is a constant demand for sand, cement and crushed rock in the country that might be filled at considerably greater profit than at present by the contractor or the owner of a plant who used, than on side track delivery, where the material must again be handled by teams and wagons. With the motor truck such deliveries can be made at no greater cost than for making side track deliveries by rail.

The Swansea Artificial Stone Company, of Belleville, Ill., is using an Avery 3-ton truck for hauling their product. A representative of this company said: "In our business the hauling is always heavy, mostly over country roads. We seldom haul less than 6,500 or 7,000 lbs. We have hauled through deep mud with 6,700 lbs. We have never been stuck yet. The truck does the work of four good teams and it never gets tired."

There are trucks in use all over the United States, hauling rock for road and construction work, sand for contracting and building, tile for drainage projects, brick and other rock products for inland towns, or from inland or small town quarries or factories. Every place that the rock product man's output needs to go the motor truck can take it quickly and more cheaply than it can be hauled by teams.

BRANDON BRICK COMPANY, BRANDON, MANITOBA, CANADA, HAULING BRICK IN AN AVERY 3-TON MOTOR TRUCK WITH TWO TRAILERS.

SHOWING DUMPING DEVICE ON A HARROLD'S MOTOR CAR.

CLARK LUMBER COMPANY, GRINNELL, IA., MAKING A COUNTRY DELIVERY OF SAND WITH THEIR 3-TON AVERY MOTOR TRUCK.

PEERLESS 5-TON MOTOR TRUCK IN USE BY THE CLEVELAND BUILDERS' SUPPLY COMPANY, CLEVELAND, OHIO.

PEERLESS 4-TON MOTOR TRUCK IN USE BY THE HYDE PARK BUILDERS' SUPPLY COMPANY, CINCINNATI, OHIO.

SAND AND GRAVEL

PRODUCTION OF SAND AND GRAVEL.

The United States Geological Survey reports the production of sand and gravel in the United States in 1910 as follows:

"The production of sand for molding, building, engine, furnace, and other uses, and of gravel reported in 1910 was 66,949,347 short tons, valued at $19,520,919, as against 58,461,100 short tons, valued at $17,173,615, in 1909, and against $10,386,875, the average annual value for the five years from 1904 to 1908. The imports of sand in 1910 were valued at $133,757, as compared with $106,234 in 1909 and with $77,574 in 1908."

The Arundel Sand and Gravel Company, Baltimore, Md., furnished the sand and gravel used in building the huge concrete abutments and spans of the Florida East Coast Railway.

The Beaumont Shell and Sand Company of Beaumont, Tex., has been incorporated with a capital stock of $10,000. The incorporators are M. W. Smith, Hal Irby, Greer Price and Gus W. Price.

The Valley River Sand Company, of Fairmont, Ohio, has been incorporated with a capital stock of $80,000. The incorporators are Arthur D. Simon, Samuel E. Miller, E. M. Taylor, John S. Scott and E. C. Frame, all of Fairmont.

To manufacture and deal in gravel roofing, the Henry I. Charbonneau Company of Chicago, Ill., has been incorporated with a capital stock of $5,000. The incorporators are Henry I. Charbonneau, Edward A. Anderson and John Martinus.

J. M. Sellers, 76 years old, president of the St. Louis Roofing Company, died February 8 at his home in St. Louis. He placed the first gravel roof in East St. Louis, Ill., and was a charter member of the East St. Louis Builders' Exchange.

Loss of $800 was caused by fire in the office of Royal Sheldon, sand and gravel contractor, 18 N. Walnut Street, Champaign, Ill., February 8. As the blaze was believed of incendiary origin, the State Fire marshal at Springfield will make an investigation.

Transportation of sand and gravel is one of the prime objects of the Enos Taylor Boat and Barge Line Company of Stryker, O., which has been incorporated with a capital stock of $30,000. The incorporators are Henry F. Burns, Charles A. Bowersox, F. M. Bruns, R. B. Bruns, and C. R. Bowersox.

The Vigo Washed Sand & Gravel Company of Terre Haute, Ind., recently filed articles of incorporation, with a capital stock of $35,000. They will engage in the manufacture of concrete material for building purposes, and will also quarry stone and manufacture cement for the market. The incorporators are Wm. C. Doak, C. Stahl, George Ehrenhardt and C. R. Stahl.

CINCINNATI MEN AROUSED.

Prejudice of City Authorities Against Gravel Arouses Producers There.

The moral support of the entire sand and gravel interest of the country is due the producers of the Cincinnati district in the situation that confronts them there. The city authoriies are opposed o gravel in municipal work and the gravel men are seeking information that will enable them to show the officials the error o ftheir ways. Appeal was made recently to President Renwick of the National Association of Sand and Gravel Producers for information of this kind and he replied in effect as follows:

"I am enclosing you an extract from the Chicago Council proceedings during the year 1908, at which time we were havig the same sort of trouble that you are evidently experiencing. This 1908 controversy, however, was principally in comparison of the relative merits of torpedo sand and limestone screenings. Our fight on gravel really dated back to about 1904. Any engineer who discriminates in favor of crushed limestone over good gravel for use in concrete does it either through ignorance or dishonesty. The United States government ha son its staff some of the best and highest priced engineers in the world, and they, without exception, give gravel a preference in their concrete construction. This was evidenced in our own district by the fact of their specifying gravel and torpedo sand for construction of the new Naval Training School, thirty miles north of Chicago, and at a point where limestone could be bought cheaper than the gravel. Engineers of the city of Chicago were until a few years ago so partial to the use of limestone that gravel was not permitted in specifications for macadam concrete, sidewalk work or curb and gutter, but this was undoubtedly due to the fact that the gravel people had not organized their business nor arranged their plants for producing gravel in suitable sizes and quantities, while the stone people were working under one of the best combination organizations in the country. Today gravel is not only permitted in all Chicago specifications, but frequently specified to the exclusion of limestone, as in the case of combination of surb and gutter. The same applies in private work, as is evidenced in the erection of many of our largest commercial buildings. The Montgomery Ward Building in Chicago, which is the largest reinforced concrete building in the city, specified gravel in preference to crushed stone, although stone could have been delivered by boat at a much cheaper rate than the gravel, which necessitated a railroad delivery.' The Corn Products Company plant at Argo, Ill., which is probably the largest concrete plant in the state, was also built of gravel concrete, although erected in the stone quarry center of Chicago. The new plants of the American Bridge Company, the American Sheet &Tin Plate

EXHIBIT AT THE IOWA CEMENT USERS' CONVENTION, SIOUX CITY, IOWA.

Company and the Pittsburgh Screw & Bolt Company at Gary, Ind., are all constructed of gravel concrete in preference to crushed stone, although stone could be delivered at as low, or a lower price than the gravel. We meet very few up-to-date engineers today who do not admit that they would prefer a concrete built of gravel than of limestone. The reason is obvious, as concrete is no stronger than its weakest part, and we know that a gravel stone is stronger than limestone. No further evidence of this is necessary than the fact that a yard of gravel weighs five hundred pounds more than a yar dof crushed stone. Years ago we were continually confronted with the argument that cement would not adhere properly t othe round or smooth surface of a gravel stone, nor so well as it would to the cubed edge of broken limestone. The fallacy of this argument was soon shown by the blasting of gravel concrete in which some of the stones were broken in two ways without releasing the cement from the outside edges. Certainly the thin edge of a cube stone is much weaker than the heart of the stone, whic his naturally much thicker, and would therefore break easier at this point than at any other. In addition to this the sharp edges of the cube stone not only bridge on themselves, but will do so on the form work, and thus create an unusual amount of voids which are apt to be left unfilled by the finer particles of the concrete, also leaving a rough surface when the forms are removed. Our progressive engineers appreciate all these points, as well as the result of numerous comparative tests which are continuously being made, so that in this locality at least we have nothing to compete with in specifications except price. A large percentage of the government ered. I believe that if your Council is on the square ,and your city engineer possessed of the average intelligence, you will have no trouble in getting gravel placed on at least an equal basis with crushed stone for any kind of concrete or macadam work. That has been our experience in Chicago, and, as I said before, the gravel people have done it strictly on the merits of their goods and in the face of a strong organization on the part of the stone people."

PITTSBURGH SAND AND GRAVEL NEWS.

Pittsburgh, Pa., Feb. 16.—Pittsburgh concerns have been chiefly busy the past few weeks in lining up prospective contracts for spring. River work has been entirely suspended. On the upper rivers ice from twelve to sixteen inches thick has stopped all navigation. A few barges of sand were unloaded in January at different points along the Ohio to supply current building operations. Aside from this the companies have been content to make repairs to their boats and machinery and get their work well lined up for spring. From the amount of work reported by engineers and architects and also the amount of public work that is pretty sure to come forward when the weather breaks, it is entirely probable that sand companies will have all the business they can attend to after the first of March.

The Portage Silica Sand Company, of Youngstown, Ohio, has the contract for supplying the Sharon (Pa.) plant of the National Malleable Castings Company with its entire supply of moulding sand for 1912. The minimum tonnage specified is 30,000 tons. This will require the company to ship 150 tons daily for 200 days. The total requirements of the National company for 1912 will be about 50,000 tons of sand. The Portage company has increased its capital from $175,000 to $200,000 and will add considerably to its output at Nelson, Ohio, and has elected the following officers: President, J. G. Butler, Jr.; vice-president, N. B. Chambers; secretary, H. H. Hoffmaster; general manager, E. E. Klooz; treasurer, Harvey Z. Kelly.

The sale of the property of the Keystone Sand & Gravel Company at the foot of Holland street, Erie, Pa., which was to have been sold February 3rd by the sheriff, has been postponed. It is reported that the affairs of the company will be straightened out so that its business will be continued.

The Ohio & Pennsylvania Sand & Gravel Company has been organized at Newcomerstown, Ohio, a thriving down-river town, and will have a Pennsylvania office at 377 Park street, Beaver, Pa.

J. M. Stockman, who owns a big sand bank on the Scioto bottoms at Portsmouth, Ohio, proposes to install the latest improved machinery in fitting up a plant this spring.

A. D. Simson, of Fairmont, W. Va., president of the Valley River Sand Company, which ships largely into the Pittsburgh district, has bought from Geo. Lilly the big sand bank and plant on the Tigarts Valley river, near Kingsmont, W. Va. He will install machinery to increase the output to 1,000 tons daily.

The Rodgers Sand Company, of this city, has let the contract to the Jones & Laughlin Steel Company, of Pittsburgh, Pa., for building two more big steel barges. They will be 26' x 130' each and nine feet deep. Each barge will have 150 tons of steel in its frame and will have a capacity of 600 tons of sand. The Rodgers company has found its first steel barge very satisfactory and more are likely to be erected by other companies.

The Dick Sand Company lost $3,000 recently by a fire in its plant at Cochranton, Pa., below Meadville. Men were blasting to loosen a large amount of sand in the tipple and the tipple caught fire. Harry Lamberton, of Franklin, Pa., is president of the company and C. E. Lamberton is secretary. The tipple will be rebuilt at once.

The Iron City Sand Company had one of its best years in 1911. Its big contract for supplying Federal street, N. S., helped out a great deal at the end of the year. The company is getting its boats in shape to do a big business when the weather opens.

The Enterprise Sand Company issued one of the handsomest calendars of the year, being a reproduction of the painting by Hortense Bucher, entitled "An Old Love Story."

The Buckeye Lake Sand & Gravel Company has bought the steamer Mary Droe and will rebuild it at once for its sand and gravel trade. The boat is 112 feet long and has a capacity of 139 gross tons.

The Valley River Sand Company, Fairmont, W. Va., has been incorporated, with a capital stock of $80,000; to mine sand at Benton's Ferry. Incorporators, A. D. Simon, S. E. Miller and E. M. Taylor.

SUPPLYING SAND FOR CONCRETE.

Economical Methods Employed in the Work on a Large Railroad Contract.

The Walsh-Kahl Construction Company is executing a large contract for the Boston & Albany Railroad in elevating its tracks through the city of Worcester, Mass. A great deal of special preparation was necessary to carry on the work, and the arrangements are very complete. The work on the retaining walls involves the placing of one-half million yards of concrete, and in order to supply the necessary sand a special screening plant has been erected. This plant is located about thirty-five miles from Worcester, just outside of Wilbraham, Mass., near a large gravel bank which extends for 1,000 feet along the Boston & Albany Railroad.

For operating the gravel bank, steam shovels are used which excavate the gravel and deliver it direct into hopper bottom cars. These cars are switched onto the siding which passes over the track hopper shown in Fig. 1. From this hopper the material passes down onto the main belt conveyor, whence it is conveyed to the upper part of the plant and discharged into the screens. The fine sand passing through the screen drops into the bins below and the tailings are passed through a chute into a crusher. The tailings are discharged by the crusher onto a short inclined belt conveyor which conveys them back to the main belt conveyor and thus a second time to the screens.

In order to supplement the storage capacity of the plant the surplus sand is carried to a pile by means of the inclined conveyor seen at the right of the bins. Sand from this pile may be recovered when needed, by means of a locomotive crane.

Fig. 2 shows the bin gates over another siding through which the sand is drawn as required and taken by rail to the concrete mixing plant at Worcester.

The main belt conveyor, running from the track hopper to the screens, is 157 feet between centers. It is equipped with a 30-inch "S-A" Special Oiled and Stitched Canvas Belt carried on No. 9-A Carriers. The two screens arranged in duplicate are No. 3 "S-A" Revolving Screens, producing but one size of screenings.

A 30-ton Farrel Crusher is used for crushing the tailings from the screen. Both the return conveyor from the crusher and the auxiliary storage conveyor are provided with 16-inch belts and No. 9-A Carriers. The length of the first conveyor is 62 feet 5 inches between centers, and the latter is 100 feet between centers. The power for the conveyor screens and crusher is supplied by a 100-horse-power steam engine. The capacity of the plant, which operates continuously, is 1,000 yards per day.

The plant is excellently adapted for meeting these special requirements, as a clean, sharp sand is produced in large quantities at small expense. This plant was erected primarily to supply sand for the single contract in Worcester, but it is probable that it will be used later to supply sand on other contracts, on account of its excellent location near a good gravel bed.

The Stephens-Adamson Mfg. Co., of Aurora, Ill., secured the contract for the manufacture of all the conveying and screening equipment, and the plant was designed by the engineers of the New York office of this company, together with the engineers of the Walsh-Kahl Construction Co.

FIG. 1—SHOWING THE MAIN BELT CONVEYOR AND THE TRACK HOPPER.

FIG. 2—GENERAL VIEW OF PLANT SHOWING BIN GATES.

FIG. 3—GENERAL VIEW OF PLANT AND SURPLUS SAND CONVEYOR.

LOUISVILLE SAND NEWS.

Louisville, Ky., Feb. 17.—The annual reincarnation of the sand trade of the Bluegrass State is now coming to pass. After having been weather-bound for a month or six weeks, diggers up and down the Ohio river and its tributary streams are starting up again and the rattle and bang of dump wagons in and out of the sand and gravel yards signifies a seasonable reawakening of the industry.

Little if any delivery work was accomplished by the sand men during the latter part of January and the first half of February, owing to the reign of one of the coldest winters in the past ten years in this section. However, the cold weather is moderating decidedly and is allowing structural work to proceed at a fair pace, so that a seasonably good demand for sand is reappearing and the yards are taking on a normal aspect.

Owing to the start which has been gained in making 1912 a building year equally as good as its memorable predecessor, there seems little chance of anything but another record-breaking business year for the sand interests being registered. The month of January, just passed, provided a sum total of $180,000 worth of permits in the building inspector's office, an aggregate which surpasses that of the corresponding month in 1911 by $50,000, although it does not constitute a record for the first month of the year in the annals of the offices. Inspector Tilford predicts confidently that this year will provide equally as much building as 1911, even with that period offering the record-breaking figure of $6,500,000, and consequently the sand men are in an altogether undisturbed frame of mind.

Present trade is reported to be very dull with the Ohio River Sand Company of this city, but prospects for immediate revival of excellent activity are pronounced to be bright. The Ohio River company is getting its equipment in shape to commence upon a very busy spring and summer season and is confident that 1912, so far as it is concerned, will rank even better than 1911. The company expects to handle considerable sewer extension work which the City Sewer Commission has completely planned.

After having had their diggers shut down and housed from the cold weather for nearly a month, the Nugent Sand Company is opening operations upon a scale which promises business of a bigger and better nature than ever. Even during the cold snap the Nugent interests maintained steady deliveries to two important jobs which are being handled at present. One of these pieces of work is the erection of a concrete train shed for the Illinois Central Railroad Company at Seventh street and the river front, while the other is the erection of the 10-story annex to the Weissinger-Gaulbert apartment building at Third avenue and Broadway.

The E. T. Slider Company is furnishing a quantity of sand to the Kentucky Public Elevator Company for the erection of its extension of grain elevators.

SAND-LIME BRICK

PRODUCTION OF SAND LIME BRICK.

The United States Geological Survey reports the production of sand lime brick in the United States in 1910 as follows:

"The production of sand-lime brick in 1910 was valued at $1,169,153, as against $1,150,580 in 1909 and against $972,133, the average value for the five-year period from 1904 to 1908."

NEW PLANT IN HAVANA.

W. J. Carmichael, of the American Clay Machinery Company, Willoughby, Ohio, writes enthusiastically of a trip he recently took, and of some of the things he saw on the journey. He went from New York to Havana and took up the engineering proposition of a large plant to be erected there for the production of sand, lime, brick.

One of the interesting features connected with the proposition is, that one of the members of that company traveled all over Europe and parts of the United States to select the best equipment and process for their work. Although the American Clay Machinery Company's prices were higher than those of some other companies, they received the order. Mr. Carmichael says, their wet grinding mills have given most excellent results wherever installed, so that any party investigating the sand, lime, brick business cannot put in other machines for the work.

Since the recent convention in Grand Rapids this company has sold one of its large 16-mold rotary presses to the Harbour Brick Company, of Toronto, Canada, and another plant will be placed in Syracuse, New York, soon. It is a pleasure to note the enthusiasm of Mr. Carmichael, who believes in his proposition and has the facility of making others see things in the same light he does.

We are advised that Raymond W. Dull & Co., Aurora, Ill., is at present designing and equipping a second plant for the Mackinaw Sand & Gravel Company, of Mackinaw, Ill. This same company designed the first plant for the Mackinaw company, which has been very satisfactory.

The Acme Sand & Gravel Company, 59 Pearl Street, New York, N. Y., has filed a petition in bankruptcy, with liabilities of $16,267 and assets of $12,007, consisting of cash $7 and plant at Mattituck, L. I., $12,000. The company was incorporated in August last with a capital stock of $25,000.

F. A. Longenecker, agent for the Wabash railroad at Kinderhook, Ill., is reported to be doing a profitable business in the gravel trade as a side line.

NATIONAL LIME MANUFACTURERS

Most Progressive and Practical Convention of That Organization Ever Held Is Largely Attended at the Sessions in New York.

Just about every one of the lime magnates of America were present in person or ably represented at the annual convention of the National Lime Manufacturers' Association, held in New York on February 2 and 3, 1912, with headquarters at the Hotel Astor. Quarry properties and manufacturing equipment amounting to many millions of invested capital were represented, and it became apparent at the opening of the convention that one of the most progressive assemblages of modern business men ever brought together under the banner of coöperation were gathered there.

Both from the technical and commercial standpoints the subject matter of papers and discussions was far and away the best, the most practical, and for that reason the most valuable ever produced. This opinion has been widely expressed by the members who were present, and beyond question the influence of the New York meeting will in future be recognized as a milestone in the progress of the lime industry.

The program was replete with every problem confronting the manufacture, use and sale of lime with the most eminent authorities in each particular branch on hand to contribute the last item of developed knowledge on the various topics.

All credit is due to William E. Carson, the matchless leader of the organization, who was re-elected president for another term. Substantial recognition of his talents, judgment and energy were expressed in the shape of a magnificent solid silver loving cup, as large as a punch bowl, which was gracefully presented by Colonel C. W. S. Cobb, in a neat little speech that came right out from the heart.

Two full days, with but slight intermission, were given to the meeting with every member present and at attention every minute. It is safe to say that more lime education has been perfected at this meeting than on any previous occasion. The proceedings in full will be published in book form later for distribution amongst the membership of the Association, so that a brief sketch in detail suffices now.

OPENING SESSION.

President William E. Carson called the opening session to order with a rush and disposing of all preliminaries in quick-step order, after a few remarks to the point of every member being expected to do his duty, called out the first paper for consideration.

E. Schmatolla, the renowned German expert, now living in New York, delivered his paper as a spoken address under the title of "Gas Producers and Gas Lime Kilns, Particularly for Natural Draft and Natural Pressures." The speaker first distributed a booklet of printed illustrations to which he referred steadily throughout this discourse. He began with the simple chimney, and proceeded step by step to build up from this the most perfect finished lime kiln, with draft control and gas firing apparatus of the highest efficiency for every kind of fuel obtainable. One striking illustration was a sectional view of the gas fired kiln compared with the ordinary direct fired kiln, showing the real simplicity of the gasification proposition. In fact, Mr. Schmatolla's address was so well founded upon common sense that it was fully understood and appreciated by all.

The paper was discussed at length by Messrs. Daurenheim, McLanahan, Carson, Cobb, Stevens, Sayer, Forgy, Bradley and others. Mr. Schmatolla was well sustained in all the points of his argument, establishing that six pounds of lime can be burned with one pound of coal in the shape of producer gas when it is properly handled.

R. R. Sanderson, of the Cyclone Drill Company, Orrville, Ohio, read his paper, "A Cost and Time Study of Big Blast Hole Drilling." This paper first dealt with the history of the development of the practice of quarry drilling with big well drillers, and then went into facts and figures of actual operations in which the economics of fewer blast holes of large size have made good in five typical quarrying operations. The paper was well received and extremely convincing.

AFTERNOON SESSION.

Immediately on the resumption of activities after the recess for luncheon T. E. Fleisher, chairman of the nominating committee, announced the following slate, which was unanimously elected:

President—W. E. Carson, Riverton, Va.

First Vice-President—J. King McLanahan, Jr., Hollidaysburg, Pa.

Second Vice-President—A. M. Glasgow, Knoxville, Tenn.

Third Vice-President—R. C. Brown, Oshkosh, Wis.

Secretary—Fred K. Irvine, Chicago.

Treasurer—C. W. S. Cobb, St. Louis, Mo.

Executive Committee—Wm. E. Carson, Charles Warner and Walter S. Sheldon.

Without the loss of a moment the first speaker of the afternoon was introduced in the person of S. R. Russell, of the E. I. du Pont de Nemours Powder Company, of Wilmington, Del., on "Well Drill Hole Blasting." Confirming Mr. Sanderson's paper, he opened with the statement that the well drill hole is both better and cheaper for blasting. He advocates putting a little 60 per cent dynamite at the bottom of the five-inch holes and then filling half full with 40 per cent and tamping carefully. In the case of distinct ledges or benches in quarries, he suggested sectional loading of the holes, i. e., loading with powder only where the rock is solid and filling in with dirt opposite the weak places or where seams occur. The speaker followed the fixed policy of his well-known concern of speaking a word of caution to users of explosives. Powder men should only wear shoes having wooden pegs, or rubbers—never shoes having iron nails. In conclusion, Mr. Russell gave a list of "Don'ts" that are all well worth attention.

Discussion of this and the preceding paper was carried on by Messrs. Lauman, Eckstrand, Fleisher, Carson, McLanahan, I. Warner and others.

Irving Warner read his paper next, entitled "The Target for the Reduction of Lime Manufacturing Cost." He took the tabulated results of several typical kilns and drew the deadly parallel showing that fuel economy is the variable factor that requires the most attention to get the best results with any given equipment. Mr. Warner further explained the value and cost of keeping records so as to be in a position to make comparisons of costs.

J. E. Forgy gave his paper entitled "The Study of Several Types of Kilns," which proved to be an able analysis of the costs entering into the production of lime in several units in actual commercial operation.

Mr. Carson remarked that he made an experiment of banking his fires over Sunday, and was surprised to find that the output of the plant was increased thereby through the greater efficiency of the men who had rested over Sunday. It amounted to $168 per kiln per month.

Warren E. Emley, of the United States Bureau of Standards, presented his paper entitled "Heat Efficiency of Lime Kilns." He took the tabulated results from seven different kind of kilns, just as he had found them in practice. First he described the physical equipment of each plant in detail and then took off the factors of comparison. All of the assumptions were based on the amount of heat actually put into the kilns, including fans, blowers, etc. The computation was carried on by the descriptions only. It was explained that the efficiency resulting from Mr. Warner's method was in no way comparable to Mr. Emley's.

Mr. Sayer and Mr. Forgy successively suggested that a standard method of testing kilns be adopted by the association, so that in future all tests may be comparable the one with the other.

Mr. Emley stated that the Bureau of Standards would be glad to coöperate in such a movement if they could only be told what was wanted.

Dr. Lazell remarked that this discussion might get a pretty full answer in his paper to come later.

Henry S. Spackman, of the Aluminate Patents Company, Philadelphia, read his paper entitled "Review of the Year's Work in the Development of Alca Limes." In this paper a stereopticon was introduced to show some fifty pictures of interiors and exteriors done in Alca lime plaster. It was a very fine showing, indeed. Mr. Spackman explained that the making of Alca limes was not so simple as first supposed. The variation of the hydrates had proved to be one of the big problems, and the factor of human equation of the users of Alca limes had been another.

Geo. A. Pierce, of Wilmington, Del., read his paper on "The Practical Use of Alca for Outside and Inside Plastering." He is an experienced contractor and gave a number of reasons why Alca

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limes have been promptly taken up by the trade, among which are its ready-to-use and resistance to weather conditions. He said that all the business that has been lost to the lime trade has gone because of the very bad way in which lime is prepared by modern workmen at the job. Such a thing as drawing off good putty is almost a lost art.

Colonel Cobb exclaimed: "This is the most important measure before us to-day, and I want to hear it fully discussed. I am an advocate of Alca, although we have not got it worked out yet in the way I want it, and as I intend to have it."

Mr. Stevens said he had a chemist at work on a similar compound. "We are going into the improved wall plaster business on a large scale."

Mr. Martin said he considered that we have three big problems now. "We all want to do more business; we all want more dollars on the business done, and we all want to do it easier." He considers the problems of manufacture as the work of each individual, but the distribution of sales is a thing that has to be done in groups or altogether. Personally, we are waiting for developments in the line of lime plaster.

Mr. Curtin mentioned the recent building code of the city of Brooklyn, in which lime is entirely excluded. He said he would bring a copy of the document to the meeting to-day, as he wanted to get the coöperation of the association in the adjustment of the matter.

Mr. Irvine, of Philadelphia, said it's the bum class of contractors that we have to deal with these days. If there is any commodity that will help lime out, God speed it.

The president said the lime association always does its duty, and we will thresh this matter out by committee.

Mr. Purcell—I think we ought to tell the code makers how rich to make lime mortars, as well as how to slack and draw off the putty.

Mr. Emley—Building codes are now being built on better lines than formerly; there is more intelligence and less political pull in the more modern codes. I hope the chair will appoint a committee to coöperate with the United States Bureau of Standards in this important matter.

Adjourned to 9:30 A. M. February 3.

MORNING SESSION, FEB. 3.

President Carson called the lime manufacturers to order with the admonition that lots of work was still on hand to be cleaned up, and at once got busy with the first paper of the day, which proved to be that of W. L. Hamilton, of the Union Mining Company, of Mt. Savage, Md., on the subject of "Requirements in Fire Brick for Lime Kiln Arches and Linings." This proved to be at once a very instructive and profitable document for the consideration of the lime manufacturers. It was more than a technical discourse, for Mr. Hamilton is a practical expert in the production of refractories, and acquainted with the special needs of a majority of the men in the audience. He treated the subject more as a heart to heart talk over one of the great problems of all processes that have to do with heat.

Mr. Sayer said that silica at low temperatures is likely to spall off, but that when high temperatures were reached, say 1400 degrees F., then the silicious surface is not affected. Irving Warner agreed that he had checked the same condition.

Mr. Schmatolla observed that one kind of liner was required for high calcium limes, and an entirely different kind was needed for magnesian limes.

The president brought the discussion to a close by saying that the fire liner proposition was an endless subject, one that required a whole lot of local treatment. He called the next paper.

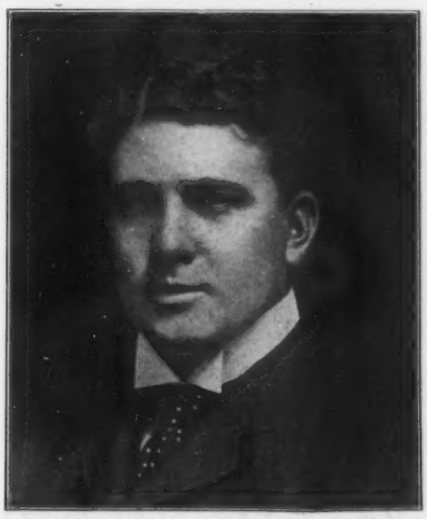
Dr. Lee Galloway, of Alexander Hamilton Institute of New York, subject, "Business Organization." He began with qualifying the terms business and organization, showing that scientific management has been working for years to make more perfect and more effective the business organization. Illustrating he showed that under railroad organization one locomotive could draw as much as 400 horses, and explained that the principle of efficiency in well-organized business could be expressed as the ratio of energy expended to the result obtained. He recommended standard conditions and arrangements for standard results—maintaining that such organizations reduce the friction of business machinery.

President Carson called on Peter Martin to talk on the subject of "Practical Organization as Applied to the Lime Business." Mr. Martin began by saying: "This organization has done much good, but there is still room for more good to be done. We are having plenty of education on the manufacturing end, and now we want some on the selling end. How can we market to the best advantage is the most important feature. That is where the profit is made, and it occurs to me that something could be done in the line of uniform prices. This organization should be instrumental in forming local associations, to work out the needs and requirements of the various markets. I would suggest that we take this up and see what can be done along such lines. Our opportunity is right now, not some future time which may never come. It is better and more profitable to dwell together in peace and harmony, and we all ought to be loyal to one another."

Colonel Cobb—I agree with Mr. Martin, and think it is up to this organization to do what it can for all members who appeal for assistance in any way. I make a motion to the effect that our president appoint a disinterested committee to take charge of the settlement of the disputes of lime manufacturers whenever they have problems that they cannot surmount themselves, the expenses of such committees to be audited by the president and paid by the parties at interest. Seconded by Mr. Martin.

Mr. Brown, of Oshkosh, was of the opinion that such a matter might be worked out now.

At this point the president introduced H. E. Porter, industrial engineer of the Alexander Hamilton Institute, to address the meeting upon the topic of "Business Efficiency." The keynote of this address was tersely expressed in the opening paragraph, in which the speaker said: "Individualism as we had it a generation ago must give way to the more modern idea of collectivism, which is nothing more nor less than numbers of human units moving in harmony together."



WM. E. CARSON, PRESIDENT NATIONAL LIME MANUFACTURERS' ASSOCIATION.

W. S. Sheldon got the floor and returned to the discussion of Colonel Cobb's motion. "We don't need to call in the police, as is generally the case when there is a family row. The disputes of lime manufacturers are only understood by lime men. As a preceding speaker has said, we have made great technical progress, and now need to get some distribution progress."

Charles Warner responded by saying: "We have not as yet got down to rock bottom. This and all other trade problems call for the personal touch which is always lacking in cases of this kind. We do not and cannot get together often enough to cultivate such diplomacy. If we could secure firmer confidence in one another and all make up our minds to play square at least nine-tenths of all the trade problems could be easily solved. To do such a thing it would be necessary to get together at least once a month. I don't think we can make any headway in this direction."

Colonel Cobb—I dislike to differ with my friend Warner, but I have unbounded confidence in the word of every lime manufacturer. All are convinced that there is no such thing as straightening out trouble until we get together. I think this measure will help some.

Both Mr. Martin and Mr. Brown concurred in this last talk of Colonel Cobb. The motion was carried.

A. A. Stevens called the attention of the lime manufacturers to the section of a steel cross-tie which has been recently developed by the Carnegie steel people of Pittsburgh under his suggestion. He explained that he was using large numbers of these ties, that they were giving perfect satisfaction so far, and suggested the appointment of a committee to help work this thing out for the benefit of all the manufacturers.

Considerable interest in the matter was expressed on every hand and the sample carefully examined.

Richard K. Meade was the next speaker; subject, "The Modern Manufacturer of Hydrated Lime." He described the equipment of hydrating mills by both the Kritzer and the Clyde process, together with all the auxiliary machines, including the Jeffrey crusher or breaker, Newago screens, Raymond air separators, Sturtevant open-door crusher, Fuller Lehigh mills, etc. All of these machines were illustrated by stereopticon as well as the installation of them in the plant of the Tidewater Portland Cement Company, of which Mr. Meade is the general manager. One of the pictures of the Tidewater plant showed Chas. C. Kritzer in overalls in the act of starting up one of his big hydrators. It was hailed with cheers.

The president called on H. Dittlinger to tell of his progress as a lime hydrater.

Mr. Dittlinger began by stating he had been in the hydrating business in Texas for about four years. The plant was a new one, so the first difficulties met with were all due to getting the proper control of the kilns. Now getting very satisfactory results; in fact, ever since replacing an experimental sifting device with a Raymond air separator. The Kritzer hydrating machine is reliably automatic and continuous in its action, and the product is always uniform. The machine is provided with slides so that the lime can be watched as it goes through the process. We have dispensed with high-priced labor and trained Mexicans to run the mill. They do it better and with a larger output than the high-priced men. Our lime hydrates very readily and the product runs 96 to 98 per cent through the 200-mesh sieve. We store our hydrate in paper sacks for six months without any appreciable loss by recarbonation. The product is gaining steadily in favor, but we have objections of its working hot at times. It can be worked instantly, not requiring any soaking or any other delay. In white coat work we have found that the mixture only calls for one-half the gypsum of former limes used in our territory.

Warren E. Emley was asked if he had differentiated as to paper and jute sacks in his investigations on recarbonation. He replied that he had not made any such comparison, and stated that the results he had obtained might not apply to hydrate in carload lots, but did apply only to isolated packages.

Lawrence Hitchcock said we need a comparative test of the same lime in paper and jute as to its recarbonation.

H. E. Wiedeman stated that he had tried this, but found the easiest solution to be the prompt shipment of the goods as produced.

J. F. Pollock remarked that his company was the Western pioneers in hydrate. The workmen claim that in some cases it does not work so smooth as lump lime putty. It also works hot. If this can be overcome there is no limit to the growth of the hydrating business.

Owing to the scattering tendency among the delegates there was no adjournment for luncheon, but a recess of thirty minutes, in which luncheon was served in the college room adjoining.

AFTERNOON SESSION, FEB. 3.

No sooner had the president rapped for order, calling loudly to the committee of chemists for their report, when Colonel Cobb interrupted and addressing the chairman, said:

Presentation of Loving Cup.

"Several years ago, sir, when we first elected you president of the National Lime Manufacturers' Association, there was a serious doubt in our minds as to whether or not you were big enough for the job. Mind you, that was several years ago. In our industry there has since been observed great development; we have all developed and grown; we have not only grown larger, but we have grown together—closer together. There is a kindly feeling here, and a kinder feeling of obligation to you, sir, and the members of this organization have delegated me to express to you these sentiments of their high esteem and regard, and to present to you as a token of their appreciation this loving cup appropriately engraved, "Presented to William E. Carson by the members of the National Lime Manufacturers' Association, 1912."

[At this moment J. King McLanahan, Jr., placed a handsome silver punch bowl on the desk before the president.]

President Carson for the first time in his life was unequal to the occasion. He finally said: "I wish I could say what I am thinking. I shall treasure this gift more than anything I possess, except my wife and little ones. It is more than great honor that you have presented to me. The progressive manufacturers are now all in the association. I appre-

ciate you all and this loving cup more than I can tell. It is fitting and appropriate for a Virginian."

Resuming the program, the president called on Mr. Doherty, of the Improved Equipment Company, to talk on gas producer practice.

H. E. Doherty—This is really a great organization. I am a member of many societies and consider this one of the best I have ever attended. It has been demonstrated beyond question that producer gas firing is the most economical method of securing and maintaining heats. I am sure that if coke was used in your gas producer that at least one-half of the sulphur would be eliminated. In our gas practice we have got the producer down so fine that it is no longer a variable factor or problem of any importance. But these heats are higher than the lime man needs. It is a feasible part of your operations and well worth going after. I would recommend a separate producer for each kiln unit, as this plan offers considerable advantages."

Rudolph J. Wig, from the United States Bureau of Standards, was the next man on the program with a paper entitled "Crushed Limestone in Concrete Fireproof Construction Work." This paper proved to be a very valuable contribution to the literature of the industry, as it brought out very clearly that limestone concrete is quite as effective as a practical fireproofing material as any other kind of concrete, and all concretes, owing to their low conductivity, make the most effectual fireproofing. All of the comparisons of concrete were made with steel, and it showed that concrete was 400 to 1. When hydrated lime is added to concrete mixture it is more dense and has much higher compressive value. Cubical forms for test pieces in fire tests are unfair and show nothing, as the fire resisting value of concrete depends upon the mass. Heat penetrates only two inches beyond the exposed surface of concrete in extreme cases, and long before the calcination point of the limestone is reached the bonding value of cement is destroyed. In the tests conducted by the Government limestone concrete proved to be quite as good as trap rock, granite, etc., and better than gravel.

Mr. Gawthrop—This is very interesting and important to all producers of crushed limestone. The government tests demonstrate that limestone contained in the concrete is but little affected by heat up to the point where cement has lost its bonding value, which is so high in practice as to make the best obtainable fireproofing material.

Mr. Hitchcock—There seems to be no accepted standard of fire tests for concrete. As brought out in Mr. Wig's paper, the exposing of five-inch cubes to different fires is unfair to the material and really shows nothing to guide the engineer. Yet this is the way fire tests by city engineers are usually conducted. I think we want the Bureau of Standards to draw up a test specification that will show something of value to the engineers by giving the fair value of crushed limestone in concrete as a fireproofing material.

Mr. Wig—Under no conditions would a cube of such dimensions and tested as described be considered as a test of the concrete, for the reason that the conditions in practice are entirely dissimilar. To make a parallel of comparison it is necessary to get all possible conditions alike.

President Carson—You have made some other tests in the line of concrete at the laboratory of the United States Bureau of Standards, have you not?

Mr. Wig—Yes, many of them, but not relating particularly to fireproofing. The addition of hydrated lime to concrete mixtures makes the resulting concrete much more dense—that is, more nearly waterproof, and of a much higher compressive value.

President Carson—The compression strength of concrete is its principal asset to every engineering calculation. The unbiased test of the Bureau of Standards demonstrated that the addition of hydrated lime greatly increases the factor of compression in concrete. It is valuable for hydrators of lime to know this and bring it to the attention of engineers. Mr. Hitchcock, let us have your resolution about the standardization of tests for limestone in concrete.

Mr. Hitchcock—I have noted the gist of my suggestion as follows: "Resolved, That the National Lime Manufacturers' Association request the United States Bureau of Standards specify a series of tests for the use of municipalities in testing of concrete for fireproofing."

(The resolution was adopted and passed on for future action.)

Mr. Emley, as chairman of the committee of chemists, suggested that a committee be appointed to specify just what is wanted and needed in the line of investigation, etc., and that the committee continue its labors along the lines as laid down. While there may be in existence plenty of data for tentative standards of lime, it is not together or available for use.

Prof. H. J. Wheeler, director of the Rhode Island Agricultural Experiment Station, read his paper on "Lime for Agricultural Purposes." This proved to be one of the most interesting numbers of the program, for Prof. Wheeler is the leading authority of the country on this important subject, that is growing in the operations of any lime manufacturer.

Mr. McCoy, of Virginia, told of the agricultural lime progress in his state, and wittily scored Dr. Hopkins, of Illinois University, on his crushed limestone heresies. He compared Virginia crops where they use lime to the crops of Illinois where they use powdered limestone. The ratios, even in corn, were all in favor of lime, as shown by the results of Virginia.

Mr. Brown, fertilizer commissioner of the State of New York, who had come from Albany to meet the National Association, related the experience he was having with the growing demand for lime by the farmers of New York. He asked for a practical and intelligible specification for agricultural lime to be used by his department. A committee was appointed to attend to this matter, after full discussion of the subject in open meeting.

Dr. Lazell, in his paper on the "Standardization of Lime," suggested that an experiment station be instituted by the association for the working out of the problems of lime. He told explicitly of the German standards that are already in vogue, and

COL. C. W. S. COBB, TREASURER NATIONAL LIME MANUFACTURERS' ASSOCIATION.

being better perfected all the time, by chemical and mechanical engineers of eminence.

"The Testing of Commercial Limes," by S. E. Young, of the United States Bureau of Standards, was read by Mr. Emley in the absence of the author. The paper dealt particularly with the observations taken in the government laboratories in Pittsburgh.

Mr. Fleisher moved a rising vote of thanks to the authors of all the papers presented at the meeting. This expressed the unanimous sentiment of all.

Mr. Curtin announced the meeting of the specification committee immediately after adjournment. He stated that the Building Department was ready to coöperate with the committee of the National Association to secure the best possible specification for the use of lime in the New York code. All of the trouble with lime seems to be right on the job, where present day hurry-up methods have tried to push chemical reaction too fast. The superintendent wants the most practical and reliable instructions for the use of lime as well as qualifications and standard practices.

As this committee withdrew, the convention adjourned sine die.

THE ATTENDANCE.

The following names appear upon the official register, and is reasonably complete, although a few failed to hand in their cards according to repeated invitations:

William E. Carson and Frank Crudden, Riverton Lime Co., Riverton, Va.

A. M. Glasgow, Tennessee Marble Lime Co., Knoxville, Tenn.

Herbert Harris and Burton K. Harris, Lime Rock, R. I.

Warren E. Emley, United States Bureau of Standards, Pittsburgh, Pa.

H. Dittlinger, Dittlinger Lime Co., New Braunfels, Tex.

R. C. Brown, Union Lime Co., Milwaukee, Wis.

Edw. B. Page and Allen J. Huke, of New York, and George B. Wood, Rockland, Me., representing Rockland-Rockport Lime Co.

P. H. Pursell and J. E. Patterson, Easton Lime Co., Easton, Pa.

T. E. Fleischer and Fred Geussenheiner, Sheboygan Lime Co., Sheboygan, Wis.

E. E. Lepine and J. E. Theriault, Standard Lime & Stone Co., Joliette, Que., Canada.

A. A. Stevens, American Stone & Lime Co., Tyrone, Pa.

J. King McLanahan, Jr., American Lime & Stone Co., Hollidaysburg, Pa.

Ward McLanahan, Blair Limestone Co., Martinsburg, W. Va.

Ambrose Allen, Tidewater Portland Cement Co., Union Bridge, Md.

W. A. McCall, Dealer's Record, Chicago.

L. C. Bonnot, the Bonnot Co., Canton, O.

J. E. Baker, G. R. Shenberger and V. M. Fry, J. E. Baker Co., York, Pa.

C. W. S. Cobb and P. Daurenheim, Glencoe Lime & Cement Co., St. Louis, Mo.

Chas. C. Kritzer, the Kritzer Co., Chicago, Ill.

Richard McCoy, Powhattan Lime Co., Strasburg, Va.

H. M. Schofield, Atlas Car & Mfg. Co., Cleveland, O.

W. B. Irvine, Knickerbocker Lime Co., Philadelphia, Pa.

Peter Martin, Ohio & Western Lime Co., Huntington, Ind.

Bernard L. McNulty, Mitchell Lime Co., Chicago, Ill.

E. W. Lazell, consulting engineer, Wilmington, Del.

Lawrence Hitchcock, Kelly Island Lime & Transport Co., Cleveland, O.

W. L. Bradley, Duff's Patents Association, Pittsburgh, Pa.

H. S. Spackman, Aluminate Patents Co., Philadelphia, Pa.

R. R. Sanderson, Cyclone Drill Co., Orrville, O.

Walter S. Sheldon, New Jersey Lime Co., Hamburg, N. J.

C. M. Lauritzen, Raymond Bros. Impact Pulverizer Co., Chicago, Ill.

Richard K. Meade, Tidewater Portland Cement Co., Baltimore, Md.

Luther Keller, Scranton, Pa.

Lowell M. Palmer, New York.

Charles Warner, Irving Warner, J. E. Forgy, George A. Pierce, Caleb W. Wilson, John E. Davis, H. W. Smith, C. C. Bye, Charles Warner Co., Wilmington, Del.; Philadelphia, New York and Boston.

E. C. Eckstrand, Palmer Lime Co., York, Pa.

H. E. Wiedermann, St. Louis, Mo.

L. A. Cover and Harry B. Warner, Security Cement & Lime Co., Baltimore, Md.

L. C. Wilson, Harbison-Walker Refractories Co., New York.

A. H. Lauman, August Lauman, Jr., and H. R. Zorn, National Mortar & Supply Co., Pittsburgh, Pa.

A. H. Tennant, Caledonia Marl Co., Caledonia, N. Y.

J. E. Morgan, Harbison-Walker Refractories Co., Philadelphia, Pa.

Aug. C. Tews, Milwaukee Falls Lime Co., Milwaukee, Wis.

Chas. H. Claiborne and W. L. Hamilton, Union Mining Co., Baltimore, Md.

John F. Pollock, Ash Grove Lime & Portland Cement Co., Kansas City, Mo.

E. H. Defebaugh, Frederick Irvine, B. F. Lippold and Charles Warner, ROCK PRODUCTS, Chicago, Ill.

Earl C. Haarsh, Kelly Island Lime & Transport Co:. Cleveland, O.

J. McLauchlan, Thomasville Stone & Lime Co., Thomasville, Pa.

E. Schmatolla, consulting engineer, New York.

S. R. Russell, Du Pont Powder Co., Wilmington, Del.

M. H. Deely, Lee, Mass.

H. A. Gawthrop, Norristown, Pa., Merion Lime & Stone Co.

C. G. Nickerson, Palmer Lime & Cement Co., New York.

C. D. Ryder, Stearns Lime Co., Danbury, Conn.

Fred C. Simons, secretary New Jersey Lime Co., Hamburg.

Eugene Y. Sayer, Geo. R. Shields and H. E. Doherty, Improved Equipment Co., New York.

A. M. Holden and George R. Johnson, Genesee Lime Co., Honeoye Falls, N. Y.

C. J. Curtin and E. T. Belden, Farnam-Cheshire Lime Co., New York.

R. J. Wig, Bureau of Standards, Washington, D. C.

E. F. Burchard, United States Geological Survey, Washington, D. C.

R. L. Humphrey, consulting engineer, Philadelphia, Pa.

Paul M. Pierson, Dutchess County Lime Co., Dover Plains, N. Y.

W. F. Tomlinson, Danbury, Conn.

A. M. Bates, Urschel-Bates Valve Bag Co., Toledo, Ohio.

Lee Galloway and H. E. Porter, New York University.

W. K. Squeir, Paragon Plaster Co., Syracuse, N. Y.

J. W. Fuller and L. P. Sprout, Lehigh Car Wheel & Axle Works, Allentown, Pa.

PITTSBURGH LIME NEWS.

Pittsburgh, Pa., Feb. 17.—Lime concerns in the Pittsburgh district are feeling good. There is every indication that the demand for agricultural lime will be larger than ever before. Every plant in the Pittsburgh and Ohio district is being equipped for a larger output than last year. Farmers and builders' supply men throughout Tri-State territory report that the results of the big campaign of education this winter in the farmers' institutions and bi-farm papers is making an enormous demand for agricultural lime to be used on spring crops. Also, there will be, according to all reports, a much larger demand for lime products of all kinds and for cement than last year. Heavy building operations are much more in evidence and the general feeling in construction circles is decidedly better.

The Apollo Lime & Plaster Company, of Apollo, Pa., is arranging to double its output of lime stone, plaster and screenings and will also add greatly to its output of lime. Additional drills and a small crusher will be started this spring. The company has never been able to supply the demand for its product. It will employ about forty men this year.

The National Mortar & Supply Company is moving its quarters into the Second National Bank building and now occupies three of the best rooms on the Ninth street front. The company is getting its plant at Gibsonburg, Ohio, in splendid shape to turn out a big output of lime, especially agricultural lime, for its officials say the chances of a big year's business in this line are better than ever before.

Frank Williams & Co. is the title of a new limestone concern at Kittanning, Pa., which has been formed by John R. Williams, S. H. McCain and R. Buffington. It will mine limestone, sand, stone, fire clay and coal.

The Erie Silican Products Company has been organized at Erie, Pa., by John Jordon, Jr., M. D. Fletcher, John W. White, C. H. Jaxteimer, J. E. and George F. Hall, W. M. Graham and C. F. Williams.

The plant of the Reynoldsville Brick & Tile Company in Butler county, Pennsylvania, has been down for a couple of weeks to make extensive repairs. The plant is crowded with orders and will rush work after the middle of the month.

PRODUCTION OF LIME.

The United States Geological Survey reports the production of lime in the United States in 1910 as follows:

"The production of lime in 1910 was 3,481,780 short tons, valued at $13,894,962, against 3,484,974 short tons, valued at $13,846,072, in 1909, and against 2,949,879 short tons, valued at $11,424,336, the average annual value for the years 1904 to 1908. The average price per short ton was $3.90 in 1906, $4.09 in 1907, $4.01 in 1908, $3.97½ in 1909, and $3.99 in 1910. The imports in 1910 were 6,498 short tons, valued at $63,791, as against 8,687 short tons, valued at $75,556, in 1909, and 5,060 tons, valued at $28,952, in 1908. The exports reported in 1910 were 164,602 barrels, valued at $127,952."

ISSUES BULLETIN.

New York, N. Y., Feb. 14.—Rudolph P. Miller, superintendent of buildings, has issued bulletin No. 3 regarding lime in cement mortar. It reads as follows: The use of lime putty or hydrated lime in cement mortar to the extent of not more than ten per cent is permitted in any case where cement mortar is required by a building permit or by the building code, unless the approved application or any amendment thereto calls for pure cement mortar, and provided that no lime of any kind shall be used in cement mortar for foundations or foundation walls.

The Ozark White Lime Works, Gravett, Ark., which lost its $4,000 warehouse and contents the early part of January, will shortly begin rebuilding the plant. F. O. Gully, of Fayetteville, is president.

LIME STANDARDS.

Paper Read Before the National Lime Manufacturers' Association By E. W. Lazell, Ph. D., at New York.

The standardization of lime is a subject which is of vital interest to all manufacturers of lime, and should receive their careful attention. You will all recognize that it is necessary to standardize a material before specifications can be drawn covering the material itself and its uses. The term standardize as used above involves the determination of the various characteristics of lime. Specifying follows standardizing and involves fixing the limits.

This subject has been particularly brought to my attention by a request from certain engineers interested in drafting a building code for the city of New York for specifications covering quick lime and hydrated lime. In connection with the work involved in drawing these specifications, it was lamentable to learn how little was known concerning the characteristics of lime, either by the manufacturer, user or engineer. A search of the literature was made, but outside of a few articles, little of value was found since the days of Major Gilmore.

For the past few years this subject of standardization has received the attention of a number of investigators, first under the Geological Survey, and later under the Bureau of Standards. The work accomplished by these gentlemen has been of great value. The subject is, however, too vast and the field too large to be covered by any one set of investigators. It is absolutely imperative, if the lime manufacturers are to hold their own in these strenuous days of rapid advancement ,that they, as an association, take up the study of lime with the view of standardizing and classifying their product and advocating specifications covering the use of the material. There can be no body of men more interested in

E. W. LAZELL, PH. D., LIME EXPERT.

advancing the lime industry than those directly interested financially, that is, the lime manufacturer.

While the field offered by lime is interesting to the chemist and engineer, and is continually attracting more investigators, the inducement to undertake the study of lime should appeal in a far greater measure to the manufacturer than to the individual chemist or engineer. If the lime industry as a whole is to advance, if the full measure of usefulness of lime is to be achieved, if economies are to be introduced in the process of manufacture, and if the manufacturers are to reap their rewards in the shape of profit, if all these are to be accomplished, it can only be done by a careful, scientific study of lime by men trained for this purpose.

Combinations to regulate prices, the carrying on of business by large companies and trusts may for a time maintain an artificial price, but at the expense of the users, and therefore these means are doomed to eventual failure. Those manufacturers who aim to build their business on firm foundations must do so by giving good service and value received to the user. This can only be accomplished by a careful study of the material, the process of manufacture, the elimination of waste, either of material or labor and by the development and enlargement of the various markets.

Any process which deals with changes produced in matter, other than a simple change in shape or form, is chemical in its nature. Burning produces a change in the limestone, the burned product no longer resembling the original stone; the process of burning therefore is within the domain of chemistry. The same holds true of hydration; this process also is a part of the domain of chemistry. The lime manufacturer must look to the chemical engineer to produce the greatest advancement in the lime industry. This does not mean that the chemical engineer alone will furnish all the means for advancement. The mechanical engineer will have to be called upon for all mechanical processes, and the efficiency engineer must be consulted for methods of cost keeping and to stop the various leaks brought about by inefficient management.

I have purposely dwelt at some length on this general view of the lime business. It may be a prejudiced view taken by one who has spent years studying the industry from a scientific standpoint, nevertheless I am fully convinced that the only true and lasting advancement in any line of human progress comes as the result of scientific study.

At this time I would respectfully request your Association to consider the establishment of an Experimental Station. The duty of this Station should be in its broadest sense the development of the lime industry as a whole. A long paper could well be written on the usefulness of such a station, but my time is limited and each one of you knows of at least one problem, the solution of which would more than pay the cost of the station.

In connection with the subject of standardization and specifications, the Association of German Lime Manufacturers adopted standard methods for uniform testing of lime in February, 1911. These specifications I will review:

I. DEFINITION.

Limes are prepared by burning limestone below the sintering temperature.

Limes are differentiated as follows:

1. Air Lime (fat lime).
2. Slightly Hydraulic Lime.
3. Strongly Hydraulic Lime or Water Lime.

1. AIR LIMES (fat or white lime) are obtained by burning limestone below its sintering temperature. They possess the following characteristics: By dry hydration they break down to a fine, soft powder (hydrated lime) accompanied by a considerable evolution of heat and an increase in volume, and give, moistened, a fat, smooth paste. After slacking, their volume has increased from two to three times that of the original. Mortar made from these limes hardens through the loss of water and the absorption of carbon dioxide from the air. This hardening proceeds from the outside towards the inside. The air limes are used for buildings above ground, interior plaster, for agricultural use and for technical and chemical purposes.

For certain purposes and for masonry which may come in contact with water, it is recommended to mix the fat lime mortar with a suitable hydraulic material, such as cement, hydraulic lime, trass, slag, burned clay, etc.

Fat limes come into the market generally in lump form; also for some purposes as ground lime.

Ground unslacked fat lime is chiefly used in agriculture and for the preparation of sand-lime brick. Ground hydrated lime is used in agriculture, for plastering and for whitewashing.

2. SLIGHTLY HYDRAULIC LIMES are prepared by burning limestone below the temperature of sintering. They possess the following characteristics: They slack similar to the fat limes, but not so rapidly. If wet down, they harden after some considerable time. The mortar prepared from these limes hardens by the absorption of carbon dioxide and water from the air, and after sufficient exposure to the air the mortars will continue to increase in strength under water. These mortars should have from 7 to 28 days' exposure to the air before they are subjected to the action of water. With hydraulic additions, such as cement, trass, etc., they may be placed under water in a much shorter time. Lime without hydraulic addition, which requires more than 21 days' exposure to the air in order to withstand the action of water, is known as air lime.

The slightly hydraulic limes are used for buildings above ground and for all classes of masonry in which a quick hardening mortar is desired.

Because of their color and their resistance to the weather, they are largely used for outside plaster. They are also used in agriculture in the preparation of sand-lime brick and for technical purposes. For below grade work they may be employed with an addition of hydraulic material, such as trass, slag, etc., by which means their hydraulic characteristics are materially increased.

The weakly hydraulic limes are generally dry slacked, although sometimes used as a paste. In case they are used as a paste, it is necessary to work rapidly because of their property of hardening. Dry hydrated limes should be aged for a few days after having been quenched in order to assure complete hydration.

3. STRONGLY HYDRAULIC LIMES, or water limes, are prepared by burning limestone below the sintering temperature. They possess the following characteristics.

By dry hydration they break down to powder, accompanied by an evolution of heat, and give a moderate increase in volume. Their mortars harden in the air and at the latest after seven days' air hardening withstand the action of water.

The water limes are successfully used for below grade work if the action of the water follows the beginning of the hardening in the air.

They are further successfully used as wall plaster and mortar if the strength and weather resisting qualities are important. If used for plaster or concrete work it is advisable to grind after hydration to be sure of constancy of volume.

The water limes are generally used as dry hydrate, sometimes as a paste. The same rule should be followed with the dry hydrate and the moistened paste, as with the feebly hydraulic limes.

II. DELIVERY AND PROPERTIES.

Lime comes into the market—

A. As unslacked lime,

B. As slacked lime.

A. UNSLACKED LIME is always seeking moisture. It comes into the market as lump lime, with price based upon 10,000 kg. (22,000 lbs.). Lump lime dry slacked after having passed a 10 mesh sieve should leave a residue of not more than 2 per cent on a No. 28 sieve. Dry slacked lime should be as fine as dust and should not form balls or clumps.

Unslacked lime also appears in the market as ground lime packed in sacks. It is designated as "ground unslacked lime" in order to differentiate it from hydrated lime. Ground lime must also be slacked for use as mortar.

B. HYDRATED LIME (sack lime). Hydrated lime is completely or partially slacked, fine as dust and packed in sacks. It must not leave a residue of more than 10 per cent on a No. 76 sieve. It is packed in sacks containing not less than 88 pounds, with the price based on 22,000 pounds. A loss in dust of 2 per cent is allowed, and a variation of 5 per cent in the weights of individual sacks. Completely hydrated limes, sound hydraulic hydrated limes can be mixed with sand and water for mortar and concrete and used similar to Portland cement.

III. TESTING.

A. QUICK LIMES.

Quick lime is broken into pieces of about 2 inches square. About 11 pounds of these are placed in a light wire basket 9.8 inches in diameter by 11.8 inches high,

immersed in water of 50° C. until violent bubbling of air ceases, then poured into a zinc lined box 12.5"x12.5"x 15.75" (capacity 40 L.). This box has a tight closing cover, and the material is allowed to remain in the box three days. The box, together with the lime, is weighed, and by subtracting the weight of the empty box, the weight of the dry hydrated lime prepared from 11 pounds of quick lime is obtained.

By means of a sieve the well hydrated material is separated from the residue. The fineness of the hydrate prepared from the lime is determined by means of the No. 28 sieve and the residue should not exceed 2 per cent.

B. HYDRATED LIMES (Sack Limes).

Hydrated lime must not leave a residue of more than 10 per cent on a No. 76 sieve.

The following tests are to be made on the dry hydrated lime A and the commercial hydrated lime B:

1. Setting time.
2. Volume constancy.
3. Strength of mortar.

1. SETTING TIME.

By the setting time of a lime is meant the beginning of the hardening of the paste; that is, the instant when the paste just begins to show the change to a stiff condition. The setting time is not determined for air limes.

The determination of the setting of lime is carried out by means of the apparatus described. This apparatus consists of a stirring flask, a spatula, a measuring beaker, a graduate for water, a square conical form with notches for three iron sticks, an iron plate, a zinc box and a metal spoon.

In practice a suitable, not over-heated room is necessary. A sheet of moistened paper the size of the iron plate is placed on this plate, smoothed down, and the conical form placed on it. The measuring beaker is filled with lime by means of the spoon and emptied into the stirring beaker (after having determined its weight). Sufficient water is added from the graduate so that after two mintes' stirring the paste has a syrupy consistency. The correct water addition is determined by pushing one of the iron rods through the paste. The paste must flow together of itself within one minute.

The syrupy paste is placed in the conical form, which has been placed on the moist paper, and evenly settled by means of light blows on the side of the form. From time to time one of the iron rods is passed transversely across the form through the paste, and the time noted when the paste no longer flows together of its own accord; that is, when the edges of the mark made by the passages of the rod remain clearly visible. The time elapsed between addition of the water and when the edges of the mark made by the rod remain visible is the setting time of the lime paste.

2. VOLUME CONSTANCY.

Every thorough and complete hydrated air lime is volume constant.

The teasing of hydraulic limes for volume constancy is carried on as follows:

A plate made as described under (1) is preserved in a zinc box in order to determine its resistance to water. The box is covered with a felt pad, which is kept moist.

The plates, which have been protected from drying out, are placed in water of room temperature. (In some cases the test pieces may be stored under water. Besides this it is recommended to allow a pat to remain in the air in order to observe shrinkage cracks).

If the plates should neither crack nor show signs of curvature at the end of ten days, they are volume constant.

The resistance to water is determined by daily placing a plate which has been exposed to the air for a definite length of time under water and noting if, after 24 hours, it shows signs of cracks or disintegration. As long as cracks or signs of disintegration are noted, the material does not possess resistance to water.

3. STRENGTH OF MORTARS.

The proportions for the mortar are one part binding material and three parts normal lime sand.

The normal lime sand is obtained from pure, washed, dried, Freienwalder quartz sand, which passes the No. 28 sieve, and is retained on the No. 64 sieve.

(a) DETERMINATION OF THE WATER REQUIRED: Normal mortar is prepared from one part by weight of lime and three parts by weight of normal sand (500 grams of lime and 1,500 grams of sand). Lump lime is used for the calculations, therefore the amount of dry hydrated lime (3-A) corresponding to 500 grams lump lime is used.

The mixture is stirred with a spoon in a bowl for one minute, and the 250 c. c. of water is added (15 to 18° C.) from a graduate, so that an earthy moist lime mortar is obtained. This mortar is stirred for three minutes with the strong metal spoon.

Eight hundred grams of the prepared mortar are filled into the compression mold (a cube with surface of 50 sq. cm.=7.7 sq. in.) and struck off with the spatula.

The tamping is completed when the mortar is plastic and when water is seen on the surface. The surface is then smoothed off with a knife and the cube removed from the mold.

Voids indicate too little water, and the broken corners indicate too much water.

(b) PREPARATION OF THE TEST PIECE: One hundred and sixty grams of mortar with the correct amount of water prepared as described above are placed in the tensile mold. After smoothing the surface the test piece is removed from the mold, placed on a glass plate and stored in a box for 24 hours.

Eight hundred grams are used for the preparation of the compression test pieces.

(c) STORING THE TEST PIECES: The test pieces made from air lime, after they are 24 hours old, are placed on a wooden grill and are stored in any suitable room having a temperature of from 15 to 20° C. and an average humidity of 85 per cent.

The test pieces prepared from hydraulic limes after sufficient air hardening are after 7 to 21 days placed under water, the water to have a temperature of from 15 to 20° C.

(d) TESTING THE TEST PIECES: At the age of 28 to 56 days the tensile test pieces are broken in a tensile machine.

The compression test pieces are tested on a compression machine. All test pieces which have been stored under water are tested as soon as taken from the water.

The minimum requirements for tensile strength shall be:

FOR AIR LIME.

After 28 days' air storage.	*After 56 days' air storage.*
Tensile strength 28.4 lbs. sq. in.	42.6 lbs. sq. in.
Compression strength 85.2 lbs. sq. in.	113.6 lbs. sq. in.

FOR SLIGHTLY HYDRAULIC LIME.

After 21 days' air and 7 days' water storage.

Tensile strength ..... 28.4 lbs. sq. in.
Compression strength ..... 85.2 lbs. sq. in.

After 21 days' air and 35 days' water storage.

Tensile strength ..... 42.6 lbs. sq in.
Compression strength ..... 142.0 lbs. sq. in.

FOR STRONGLY HYDRAULIC LIME.

After 7 days' air and 21 days' water storage.

Tensile strength ..... 71 lbs. sq. in.
Compression strength ..... 170 lbs. sq. in.

After 7 days' air and 49 days' water storage.

Tensile strength ..... 113.6 lbs. sq. in.
Compression strength ..... 284. lbs. sq. in.

The tensile strength to be the average of at least 10 tests. The compression of at least 5 tests.

I wish to call to your attention a few points brought out in the German specification. The three various classes of limes are distinguished by the behavior of their mortar towards water.

Mortars made from air lime require at least 21 days' exposure to the air before they will withstand exposure to water. Mortars made from slightly hydraulic lime will withstand exposure to water after from 7 to 28 days' exposure to the air. Mortars made from strongly hydraulic limes will withstand exposure to water after not more than 7 days' exposure to air. You will particularly note that there are no chemical requirements introduced in these specifications.

The specifications covering the quality of the material are worthy of careful study. Lump limes, after dry hydration, must leave a residue of not greater than 2 per cent on a 28 mesh sieve. Commercial hydrated limes must leave a residue of not greater than 10 per cent on a No 76 sieve.

The test given for the setting time is the best that I am familiar with. Also, the tests for constancy of volume and strength are to be highly recommended.

We have received from the Department of Commerce and Labor their Bulletin No. 5 on the effect of high pressure steam on the crushing strength of Portland cement, mortar and concrete, by Rudolph J. Wig. It covers the subject in an exhaustive way, giving in tabular form the results attained by various pressures of steam. It is a book that ought to be in the hands of every engineer and student who is making a study along technical lines in relation to cement.

E. Schmatolla, Chemical Engineer, announces to the trade that he has arranged in New York an experimenting testing station where he will be able to test all kinds of fuel and rocks under working conditions. His office is at 150 Nassau St., New York City, N. Y.

WOODVILLE'S NEW PLANT

Erected on the Site of the Old One—It is Declared One of the World's Finest.

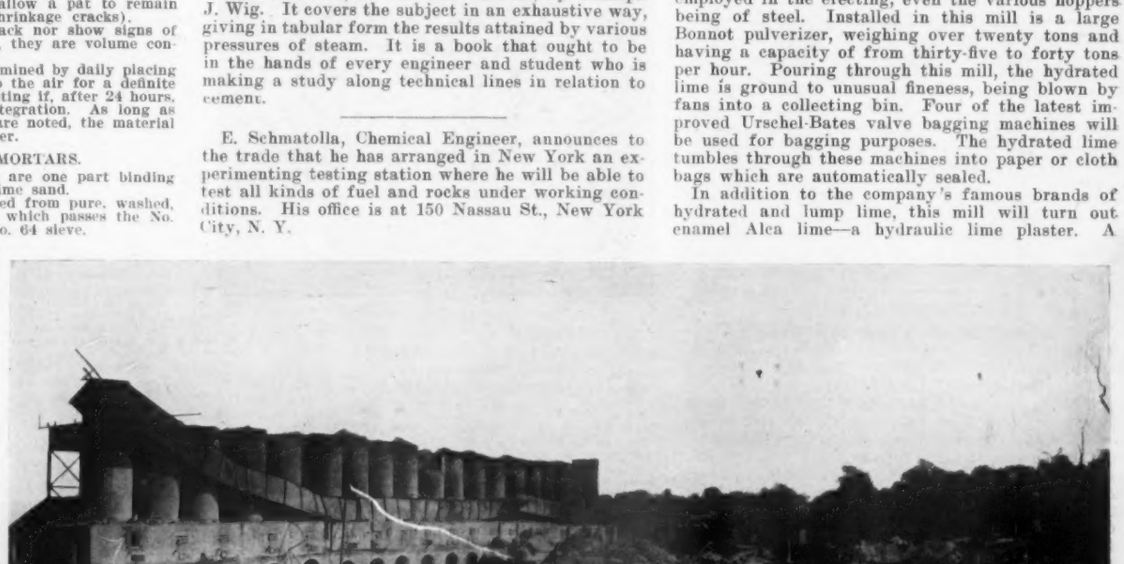
The modern equipment of the lime plant challenges the admiration of the man who observes the development of methods in producing building materials, especially since he calls to mind that only a few years ago the production of lime was limited to the laborious method of building a kiln in the side of a hill where only a few barrels could be produced in the course of a week. To compare this old method with the great plants to be seen in various parts of the country, it's possible for even men at middle age of this time, showing the marvelous advance that has been made in production methods and equipment.

On September 14th last, the plant of the Woodville Lime & Cement Company, at Woodville, Ohio, was burnt to ashes and now out of the embers has risen a new plant that eclipses not only the old one, but any other in the central west. It is declared that the new mill is the best equipped and most modern hydrated lime plant in the world.

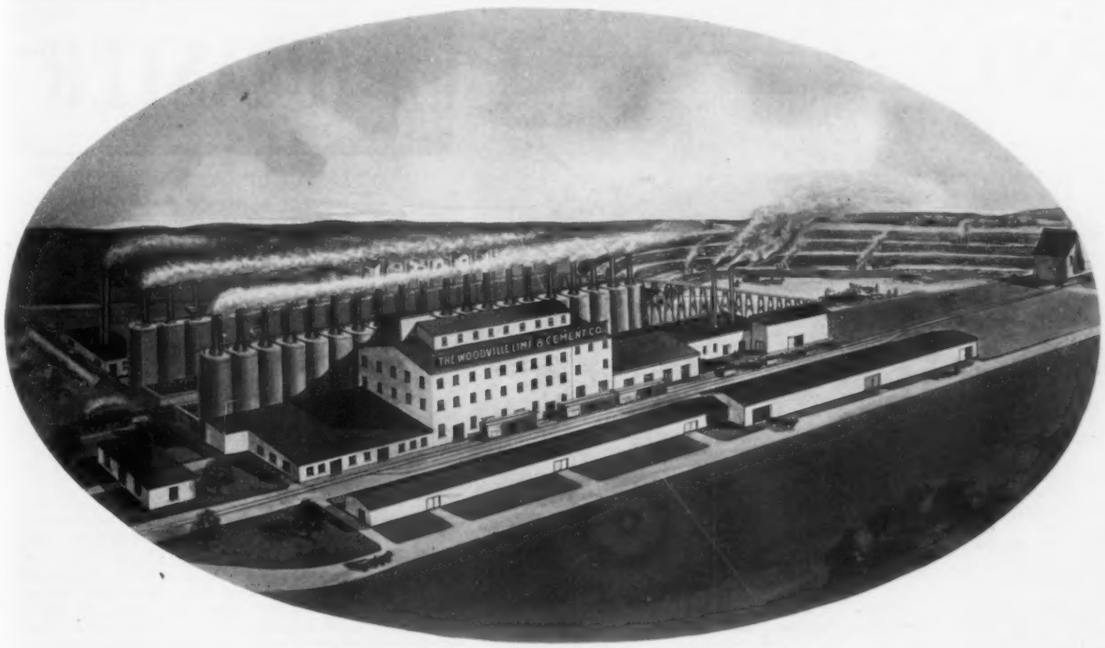
The mill proper will be five stories high, flanked on either side by large lime sheds. At one side of the mill will be twenty patented kilns and parallel with these kilns will be twenty more, totaling forty kilns, and allowing a daily capacity of five hundred tons of hydrated lime to supply the ever-increasing demand for the product of this progressive company. On the other side of the mill will be a storehouse, eight hundred feet long, in which will be stored during the winter months a surplus of material to take care of the great spring rush. About fifty feet from the mill is situated the office and testing laboratories. Here is where every batch of hydrated lime is carefully tested by skilled chemists so that in no way can the merit of the product fall below the standard. The office is built of fireproofing block, over which, inside and outside, is plastered enamel Alca lime.

This plant is constructed of steel throughout and designed by the most competent engineers of this country. Such a lesson was taught by the burning of the old plant that not one stick of wood has been employed in the erecting, even the various hoppers being of steel. Installed in this mill is a large Bonnot pulverizer, weighing over twenty tons and having a capacity of from thirty-five to forty tons per hour. Pouring through this mill, the hydrated lime is ground to unusual fineness, being blown by fans into a collecting bin. Four of the latest improved Urschel-Bates valve bagging machines will be used for bagging purposes. The hydrated lime tumbles through these machines into paper or cloth bags which are automatically sealed.

In addition to the company's famous brands of hydrated and lump lime, this mill will turn out enamel Alca lime—a hydraulic lime plaster. A



RUINS OF THE OLD PLANT OF THE WOODVILLE LIME AND CEMENT COMPANY.



NEW PLANT OF WOODVILLE LIME & CEMENT COMPANY.

complete line of builders' supplies will be carried in stock so that the host of customers can receive the benefit of carload freight rates by getting mixed carload shipments of hydrated lime, lump lime, Alca lime plaster, gypsum plaster, Keene's cement, etc.

The Eden Independent Lime & Stone Company, located near Fond du Lac, Wis., won a victory before the Wisconsin railroad rate commission, when that body declared that the extension of the spur track from its present terminus at the kilns of the Union Lime Company to the kilns of the Eden Independent Lime & Stone Company is a necessity. The commission also asked for the dismissal of the complaint of the Union Lime Company, filed in the circuit court at Madison.

Donohue & Sinz, engineers of Sheboygan, Wis., representing the Sheboygan Valley Sand & Lime Company, with headquarters in Oshkosh, Wis., are pushing the work of cutting timber in the Sheboygan marsh, which is being used by the lime kiln near Elkhart. The company will drain the swamp, about 4,000 acres in area, as soon as the timber is cut off.

It was decided recently by the Board of General Appraisers that merchandise invoiced as lime powder, consisting of a mixture of lime, carbonate of lime and manganese dioxide, must stand duty at 25 per cent as a "chemical mixture." Strohmeyer & Arpe Company, importers, alleged either that the merchandise should be admitted at five cents a 100 pounds as "lime," or at 20 per cent as an unenumerated manufactured article.

The Geneva Gardens and Lime Company, Geneva, N. Y., has been incorporated with a capital stock of $225,000. The directors for the first year are named as follows: James M. Kennedy, Harry F. Nestor, Lansing G. Hoskins, Fitzhugh McGrew and Harry M. Glenn. The prime object of the company is to develop large marl beds which exist in the vicinity of Geneva and to manufacture cement.

The plant of the New York and New England Lime and Cement Company at Greenport, Columbia County, N. Y., will be greatly enlarged in early spring, and when completed will make one of the largest cement plants in the world.

Manager Sloan, of the Rock Products Company, Charlevoix, Mich., reports that the big kilns of that company have been kept hot night and day during the past few weeks and has been shipping a carload of hydrated lime per day. As a reserve against the spring rush, they have sixty carloads in the warehouse, and are of the opinion that they will need every barrel of it to take care of the trade during this period.

The company is installing new motor-driven machinery, and as soon as the snow goes off in the spring activity at the plant will be doubled and everything rushed to completion.

A blaze, which started in a shed used as an engine room and spread to a large lime shed, caused a loss of $10,000 to the Artesian Stone & Lime Works, Chicago, Ill., the latter part of January.

CLAY

PRODUCTION OF CLAY PRODUCTS.

The United States Geological Survey reports the production of clay products in the United States in 1910 as follows:

"The value of all clay products in 1910 as reported to this office was $170,115,974, as against $166,321,213 in 1909, and against $146,778,658, the average annual value for the five preceding years. The exports of brick in 1910 were valued at $1,602,913 and the exports of pottery at $1,041,689."

The Harbison-Walker Refractories Company, of Pittsburgh, elected the following directors at its recent annual meeting: H. W. Croft, Hamilton Stewart, O. M. Reif, L. C. Turley, J. J. Brooks, Jr., Geo. W. Reese, H. F. Bigler, J. E. Lewis, T. H. Given, R. W. Harbison, T. L. Chadbourne, Jr., Hay Walker, Jr., Hay Walker, William Walker and N. McQuillen.

We have received from the National Paving Brick Manufacturers' Association a copy of their book on revised specifications for laying vitrified brick pavements. It has been compiled with great care by the engineers of the association, and the specifications fully set forth the best methods of brick pavement construction. Specifications are being sought for by city and county engineers, highway commissioners and other officials, civic boards and improvement organizations. They are furnished free on request. The headquarters of the association are in the Brotherhood of Locomotive Engineers Bldg., Cleveland, Ohio.

A. W. Stoolman of Champaign, Ill., was awarded the contract for erecting the new ceramics and mining engineering laboratory building at the University of Illinois, Champaign, for $22,000.

The Keokuk Brick and Tile Company of Keokuk, Iowa, has elected the following officers: President, George S. Tucker; vice-president, Frank Swan, and secretary-treasurer, Paul Pechstein.

The Eldora, Iowa, Brick and Tile Company has been awarded a $7,943 contract to supply material for a big ditch in Hardin county.

The Gulf Coast Brick and Tile Company of Brownsville, Tex., has increased its capital stock from $25,000 to $50,000.

The North Shore Mantel and Tile Company of Chicago, Ill., has been incorporated with a capital stock of $4,000 to deal in tile, mosaics, fire places, etc. The incorporators are G. John Fitzgerald, Henry J. Kopp and Harry P. Smith.

The International Brick & Clay Products Exposition Company of Chicago, Ill., has been incorporated with a capital stock of $15,000 to conduct exhibitions of brick and clay products.

Articles of incorporation have been granted the Sunny Brook Brick Company, of Miles Hill, S. C., who will begin business with a capital stock of $10,000. Incorporators: H. F. Lee, president; Y. M. May, vice-president, and R. H. Johnson, secretary.

The Glass Brick Company, of Pittsburgh, Pa., which has a plant in Connellsville, Pa., has voted to double its capital and will issue $100,000 in new stock at once in order to build an addition to its works this spring. This company, whose president is Charles B. Lawton, is one of the newer concerns in the Pittsburgh district and manufactures a fine cement brick which is faced with a specially made surface of blown glass.

The Excelsior Brick Company has been formed with a capital of $5,000, at Rockwood, Somerset county, Pennsylvania, by Harrison Snyder, J. S. Miller and others of that place, and W. H. Ruppel and D. B. Zeigler, of Somerset, Pa.

A strong local corporation is being formed at Post, Texas, to take over a large acreage of high-grade limestone, clay, etc. This corporation will, at a very early date, begin the erection of a hydrated lime plant, and will later follow with plants designed for the manufacture of other lime and clay products, viz., building tile and several classes of building and fire brick, and Portland cement, high-grade materials for which occur in almost inexhaustible quantities on lands being acquired.

Verner A. Robinson, consulting and operating engineer, will for the present act as consulting engineer for the new corporation.

The Freeport Clay Company stockholders met January 16th at Freeport, Pa., and elected these directors: T. O. Jones, president of the Tarentum Hardware Co., Tarentum, president; J. De Witt, Freeport, Pa., vice-president; J. G. Runkle, Butler, secretary; W. H. Rebhun, Butler, treasurer; R. P. Scott, Butler, counsel; Francis Laube, G. L. Rutherford, J. H. Oppenheimer, A. J. Fulton, directors.

The Aluminum Company of America, which has recently acquired extensive clay interests in Tennessee and now employs about 2,000 men at New Kensington, Pa., is having plans prepared for a $100,000 smelter plant at the latter place.

The Mechanicsville Brick Company, of Stillwater, Saratoga county, New York, has been incorporated to manufacture and deal in brick, tile, etc., with a capital stock of $100,000. The incorporators are M. L. Welling, R. A. Moore and J. M. Purcell, all of Mechanicsville, N. Y.

The Painton Brick Company, of Troy, N. Y., has been incorporated with a capital stock of $30,000. Incorporators: J. J. Painton, G. W. Painton, Troy; E. P. Painton, Hoosick Falls. The company will manufacture and deal in brick, stone, cement, building materials, etc.

SEWER PIPE MEN MEET.

Annual Convention of the Distributers' Association Is Held at the Knickerbocker.

The Sewer Pipe Distributers' Association met yesterday morning at the Knickerbocker in annual convention. The attendance was good and much was accomplished in a short space of time. The officers submitted their reports showing substantial advances during the year. The session was executive in character, just a family affair in which good feeling reigned supreme.

The report reached the outside parlors that while business naturally is slack at this season the prospect for 1912 is decidedly optimistic.

Officers were elected as follows: President, James G. Lincoln, Boston, Mass.; Secretary-Treasurer, J. C. Adams, Pittsburgh, Pa.; Vice-President, E. S. Walton, Youngstown, Ohio.

Executive Committee—James G. Lincoln, President, Boston, Mass.; E. S. Walton, Vice-President, Youngstown, Ohio; J. C. Adams, Secretary-Treasurer, Pittsburgh, Pa.; Arthur N. Pierson, New York, N. Y.; Chas. C. Bye, Wilmington, Del.; A. E. Bradshaw, Indianapolis, Ind.; W. W. Coney, Cincinnati, Ohio.

Directors—C. H. Classen, Md. Lime & Cement Co., Baltimore, Md.; J. C. Adams, D. J. Kennedy Co., Pittsburgh, Pa.; A. E. Bradshaw, Indianapolis Mortar & Fuel Co., Indianapolis, Ind.; Chas. C. Bye, Chas. Warner Co., Wilmington, Del.; E. S. Walton, The Youngstown Ice Co., Youngstown, Ohio; C. N. Ray, The C. H. Little Co., Detroit, Mich.; Warner Moore, Warner Moore & Co., Richmond, Va.; G. B. Raymond, G. B. Raymond & Co., New York, N. Y.; E. W. Lewis, David W. Lewis Co., Boston, Mass.; W. W. Coney, The Moores-Coney Co., Cincinnati, Ohio; A. Y. Gowan, The Cleveland Builders' Supply Co., Cleveland, Ohio; Max E. Miller, The Warner Miller Co., New Haven, Conn.; Arthur N. Pierson, Arthur N. Pierson & Co., New York, N. Y.; James G. Lincoln, Waldo Bros., Boston, Mass.; Luther Keller, Scranton, Pa.; A. R. Kuhlmann, Toledo Builders' Supply Co., Toledo, Ohio.

The feature of the meeting was an address by J. D. Kenyon of the Sheldon School on "Salesmanship." He told of the moral and psychological principles underlying business and of their application to the making of a sale.

WHITE HALL CLAY NEWS.

White Hall, Ill., Feb. 4.—In giving his opinion of the outlook for business in White Hall for 1912, H. C. Morrow, president of the White Hall Sewer Pipe and Stoneware Company and other clay industries here, after referring to the Sherman antitrust law, declared: "One of our departments depends quite largely on public work, and I observed in November the rapid decline in business. December proved a very poor month with us, and in our opinion it will be some weeks before business opens up again. Business is being forced. This country is so big and the demand so large, however, that there is going to be some business right along. A large number of plants similar to ours have been shut down for two or three months, but I am confident that business conditions will not justify our shutting down entirely. We are, however, as you know, running along at reduced capacity. It is our opinion that in a few weeks the demand will be such as to justify the increase of our operations. The coming year, 1912, is campaign year, and business may be affected to some extent from this. However, we are anticipating about as good a year in 1912 as 1911. I don't see, however, how we can hope to have normal conditions again throughout the country until Congress amends the Sherman law in such a way that the manufacturers can determine whether or not they are in violation of that law. It is my opinion that if Congress should establish a Trade Commission (similar to the Interstate Commerce Commission over railroads) and encourage the co-operation of the manufacturers to the extent of permitting them to make a reasonable profit, that almost all the industries would be in operation to their full capacity within a few weeks thereafter." The White Hall Sewer Pipe and Stoneware Company had earnings of 12 per cent of the capital stock in 1911 and 6 per cent dividend was ordered paid. Over 2,000 cars of clay products were shipped in 1911 and it is estimated that not less than 3,000 car loads will be shipped in 1912. The following changes were made at the annual election, the directory of the Sewer Pipe and Stoneware Company is as follows: Gustav Bischoff, president, St. Louis Independent Packing Company, St. Louis; F. H. W. Kreming, president Kreming Glass Company, St. Louis; Jett A. Kirby of the Jersey State Bank, Jerseyville; R. W. Greene of S. F. Greene & Company, Kane, Ill.; A. P. Grout of Neat, Condit & Grout, Winchester; George P. Davis, Capitalist, Bloomington; J. F. Claus of the J. F. Claus Tea Company, Jacksonville; Thomas Reaugh of the W. T. Reaugh Shoe Company, Jacksonville; Augustus Christy, Jerseyville; H. O. Tunison, president First National Bank, White Hall, and H. C. Morrow, White Hall. H. C. Morrow is president and general manager of the company and C. B. Stahl is secretary. The White Hall Drain Tile Company is a subsidiary organization, which uses the coarser grades of clay. The vitrified brick silo block, which is used in the construction of the A. P. Grout silo has proved very popular. F. E. Coultas of Virden, Ill., will erect a silo in that neighborhood to be used for demonstrations.

A charter has been granted to the Elverson Ore and Stone Company, of Coatesville, Pa. The capital stock is $20,000.

O. T. Dunlap of Edwardsville, Ill., has been awarded a paving contract in that city which will total between $65,000 and $75,000.

The Wadsworth Stone & Paving Company of Pittsburgh, Pa., has filed notice of an increase in capital stock from $200,000 to $300,000.

Farmers near Stockland have circulated petitions for twelve miles of paved highways. The same proposition will be voted upon, probably, at the spring elections in Paris, Ill.

Machinery is being installed in the new plant of the Moundhouse Plaster Company, of Emeryville, Cal. The company will manufacture wall board and other building material.

The Fox Construction Company of El Reno, Okla., has been incorporated with a capital stock of $25,000. The incorporators are John W. Fox, W. C. Armstrong and A. W. Lipe, all of El Reno.

The Inland Construction Company of Oklahoma City, Okla., has been incorporated with a capital stock of $50,000. The incorporators are P. M. Speicher, H. M. Johnson and F. C. Love, all of Chandler.

The Roman Nose Gypsum Company, of Bickford, Okla., has been incorporated, with a capital stock of $100,000. Incorporators, A. C. Enochs, Oklahoma City; I. C. Enochs, Jackson, Miss., and Chas. N. Bancroft, Bickford.

Doing a general quarry business is one of the objects of the recently incorporated Northern Illinois Granite Company of Kankakee, Ill. The incorporators of the concern which is authorized to have a capital stock of $20,000 are J. B. Hazlett, L. W. Hazlett and Albert C. Tanner.

At the meeting of the stockholders of the Luzerne County Crushed Stone Company the following officers and directors were elected for the coming year: J. Q. Creveling, president; D. L. Creveling, secretary and treasurer; Peter Meixell, J. W. Davis, Christopher Wren, Charles W. Fehr and George F. Coddington.

The Garbutt Gypsum Company, Rochester, N. Y., filed a voluntary petition in bankruptcy December 30, and Charles L. Tuttle was appointed receiver for the insolvent concern. The liabilities were $48,216.45 and the assets were placed at $7,408.02. It was decided that it would not be profitable to keep the plant running and that an appraisal should be made and the equipment sold.

The new building for the manufacture of concrete blocks has been completed by the Paragon Plaster Company, Syracuse, N. Y., and is under full operation. The building contains 30,000 feet of floor space, and the company will also add a large amount of new machinery to the brick plant.

At a stockholders' meeting, held last month, the following officers were elected: President, Jacob Amos; vice-president, A. E. Nettleton; secretary, treasurer and general manager, W. K. Squeir.

We have a letter from Mr. J. H. Andrews, Monterey, Mexico, telling of a great opportunity in that vicinity for the development of a large vein of gypsum adjoining the property of the Hidelgo Cement Company, which company has made tests of the rock, and report that it is the highest quality. Mr. Andrews says, the owners of the land will not sell the ground, but wish to put it into a company for the manufacture of cement or plaster, and in case it was necessary, would be willing to take a considerable interest themselves.

The Hidalgo Company, Mr. Andrews says, make the best cement in Mexico, and cannot fill their orders, though they are constantly increasing the capacity of the plant. Their lowest price for cement is $6.62 a barrel, which is equal to $3.31 in United States money. Mr. Andrews is anxious to get in touch with parties that would be interested in developing this property.

PRODUCTION OF GYPSUM IN 1910.

The United States Geological Survey reports the production of gypsum in the United States in 1910 as follows:

"The output of crude gypsum in 1910 was 2,379,057 short tons, valued in its first marketable condition at $6,523,029, as compared with 2,252,785 short tons, valued at $5,906,738, in 1909, and with an annual average value of $3,733,924 for the five years from 1904 to 1908. The greatly increased production of late years is attributable to the largely increased use of wall plaster and of plaster of paris in large modern buildings. The imports in 1910 were valued at $502,111, as against $425,137 in 1909 and $354,403 in 1908."

LOUISVILLE PLASTER NEWS.

Louisville, Ky., Feb. 17.—Even though the wall plaster trade in this territory during the past month has been quiet it is expected that inside of thirty days interest in plaster will be entirely revived. While little actual work has been done during the month, the plants have been running on easy schedules and are now well stocked to handle future emergencies. Furthermore, all local mills have been completely renovated and in some cases improved, so that there will be no chance for anything but the best possible facilities when the spring rush for interior finish in the building world arrives. Out of a half million dollars' worth of work that is in definite prospect for the next two months, the plaster men agree that they should have no trouble in annexing enough business to make March and April, 1912, two of the finest spring months in the history of local interests.

"There is nothing doing now, but we have plenty of work booked for the spring and summer," said General Manager Campbell, of the Kentucky Wall Plaster Company. "I think it might be stated safely that one of the finest hot weather seasons in years is ahead of us. Beginning about March 1 we expect to be rushed to the full extent of our capacity for handling trade for a period of several months."

The Kentucky Wall Plaster Company will begin work shortly upon the interior of the new Norton building, a handsome six-story structure, which is now being erected at the southwest corner of Fourth avenue and Market street. The Norton job is one of considerable importance, as the structure is to be used for general business purposes and will rank as the newest and most up-to-date in the lower portion of Louisville's retail business section.

The Atlas Wall Plaster Company, in Parkland, has renovated its extensive plant completely and is preparing for a banner season in residence plastering. The Atlas works are now in fine shape to handle demand of bigger proportions than ever. William Selke, president of the Atlas Wall Plaster Company, returned a few days ago from Florida, where he had spent several weeks during the sudden Arctic snap which hit local territory. Mr. Selke has been congratulating himself upon his perspicacity in seeking tropical climes when the Frost King was making things uncomfortable for Louisvillians, but he is now ready for whatever business there is.

The Southern Wall Plaster Company is installing a new mixer, which will considerably increase the capacity of the plant. Business during the month has been practically at a standstill with the Southern company, but is beginning to denote substantial improvement because of better prospects for good building weather in the immediate future. The company has handled an unusually large number of inquiries, predestining a fine natural season later on.

The directors of the United States Gypsum Company completed their annual meeting a short time ago, and re-elected officers. The usual quarterly dividend of 1¼ per cent was declared on the preferred stock, payable March 1 to holders of record Feb. 20. The financial report of earnings for the last fiscal year will be mailed to the stockholders in a few days.

A. J. Cesery & Company, of Jacksonville, Fla., was awarded the plastering contract for the big department store of Cohen Brothers, of that city. The contract embraces all the plain and ornamental work on the building, and will entail expenditures of between $35,000 and $40,000.

THE USE OF ALCA LIMES

By HENRY S. SPACKMAN.

About a year ago I spoke before the Association of Alca Products, indicating their possible beneficial effect on the future of the Lime Trade. At that time "Alca Limes" were just beganning to be used commercially, and the open question was, whether or not the use of the material under commercial conditions on a large scale would substantiate the conclusions drawn from the successful experiments of the laboratory and the practical work to date, and whether the market would take the new product. As an answer to the second of these questions, I am going to show you, by a series of lantern slides, how the building trade has received "Alca Lime." You, of course, understand that in the short space at my command it is impossible to show you even a scant one per cent of all of the buildings in which Alca Limes have been used, even if it were practical to protograph them, but the pictures shown are selected as being representative of the various classes of work in which Alca Limes have been used, and demonstrate beyond question that "Alca Lime" has been found adaptable for all types of construction, being equally as well suited to the highest class of construction as typified by elaborate dwellings, or office buildings, as to the cheaper classes of buildings typified by the class of construction commonly known as operation work.

(1) This view shows the interior of a theater at Darby, Pa., which was plastered with "Alca Lime."

(2) This view shows the interior of a cow-barn of Mr. McFadden's near Philadelphia.

(5) This view shows a Telephone Exchange of the Bell Telephone Company, at Ardmore, Pa. The use of Alca Lime gave such satisfactory results in this building that it has been practically adopted as a standard material by the company, they having built three (3) other exchanges identical with this one, in all of which the plastering was done with Alca lime. The building is fireproof, and the plaster is applied to terracotta and plaster block.

Successful as Alca lime has been as an interior plaster, it has met with even greater favor for exterior work, having been found superior for stucco work to any material hitherto used. Owing to its ease of application, the mechanics like it. Owing to its durability, resistance to water, and the fact that being itself white, it can be adapted to any variation of the color scheme. It has found immediate favor with the architects.

(6) This view shows a residence at Ardmore, which was plaster inside and out with Alca lime; the stucco being applied to metal lath.

(7) This view shows an apartment house in Philadelphia which was plastered inside and stuccoed outside with Alca lime; the stucco being applied to brick walls.

(8) This view shows a dwelling constructed at Elkins Park, the walls being of brick and hollow tile laid in Alca lime. This building was also plastered inside and out with Alca lime.

(9) This views shows the same building after the stucco was applied; the stuccoed portions being on tile.

(10) This view shows the Hygeia Baths, Atlantic City, stuccoed with Alca lime.

(11) This view shows a dwelling constructed by remodeling an old stable near Philadelphia. This building was also plastered inside and out with Alca lime, and afforded an excellent test of the adaptability of the material for application to various surfaces; the original building, which had grown by addition, consisting of stone, brick, concrete and wood.

(12) This view shows a dwelling at Ardmore, Pa. This building was also plastered inside and out with Alca lime.

(13) This view shows the cow-barn on Mr. McFadden's estate, near Philadelphia, stuccoed with Alca, the interior of which was shown you previously.

(14) This view shows a dwelling house at Bryn Mawr, Pa., plastered inside and out with Alca lime.

While Alsa limes have been specified and used, as indicated by the views shown, on buildings where the cost of construction was subordinate to quality by reason of their superiority to other plaster material and low cost in cheaper construction; plastering work done with Alca lime costing less than when lump lime is delivered to the building and slaked on the ground, and stucco less than when cement is used.

(15) This view shows a garage at Wilmington, Del., stuccoed outside and plastered inside with Alca lime.

(16) This views shows some operation dwellings stuccoed and plastered inside with Alca lime.

(17) This view shows another building of the same class.

(18) This is another building forming a part of the large operation.

(19) This is another building forming part of the same operation.

These buildings were all plastered with Alca lime stucco.

You are all familiar with the rapid growth in favor of the use of tile in building construction. Alca lime has been found to lend itself admirably to construction of this kind, being used for the laying of the tile and brick work, as well as for stuccoing the outside, and plastering the inside of the buildings.

(20) This view shows a number of buildings of this class under construction; Alca lime being used for laying of brick work and tile.

(21) This view shows a building at Rose Valley, near Philadelphia, constructed from tile, and plastered inside and out with Alca lime.

(22) This view shows the tile building before outside stucco has been applied.

(23) This view shows a building after stuccoing with Alca lime.

(23) This view shows construction of wall and gateway of tile and Alca lime, posts, coping and bases cast and stuccoed with Alca lime.

All of you who have been to the Cement Show probably watched with considerable interest the demonstration of the cement gun, which promises to revolutionize building methods. An extended series of experiments and practical use has developed that Alca limes are more

(24) This illustration shows a row of houses stuccoed outside with Alca lime applied by the cement gun, and plastered inside with Alca lime.

(25) This view shows another building plastered inside with Alca lime; the outside stucco being also of Alca lime applied with the cement gun.

(26) This is another view of a building in the same operation. These all show houses that have been especially built with the idea of using the cement gun in their construction.

(27) The next illustration shows an old fashioned weather-boarded frame house, which has been stuccoed with Alca lime applied by the cement gun, and you will note that it was entirely possible to apply the stucco without in any way injuring the vines.

(26) This is a view of another frame house treated in the same manner. These two houses are at Flushing, L. I.; the cost of stuccoing these buildings being little, if any, in excess of painting.

Alca limes also lend themselves to brick construction, and will, we believe, as their merit becomes more fully known, supplant Portland cement for this class of work, as they develop practically the same strengths as cement, are more waterproof, and are much easier to work with; Alca lime spreading in the same way as the best lump lime putty, enabling the brick-layer to make much more rapid progress.

In addition to these advantages, it is possible to make as wide a joint as may be desired, and of any color. Alca lime joints will not squeeze out, freeze out, or wash out, and the construction can be pushed as rapidly as desired without fear of settlement or distortion of the walls.

(29) This view shows the Woodward building in Washington, D. C., where Alca lime was substituted for white Portland cement originally specified in laying brick work.

(30) This cut illustrates a dwelling built at Wilmington, and shows the effect that may be obtained from the absolutely white Alca lime mortar. The interior of this building was plastered throughout with Alca lime.

(31) This illustration shows, in greater detail, the wide joints obtained with Alca lime.

(32) This picture shows another building in which all the brick work and interior plastering was done with Alca lime.

(33) This picture shows the Bellevue apartments in Philadelphia, in which all the interior plastering work was done with Alca lime.

From the pictures shown you it is evident that we are justified in claiming that in Alca lime we have a material which is available for all requirements of ordinary building construction, and that it is the only material which will give equally good results in laying the foundation and other masonry or brick walls of a building, plastering the interior, and stuccoing, if desired, the exterior surface; and these same views prove conclusively that Alca lime is meeting with general approval from the architect, mason, bricklayer and plasterer.

It must not be forgotten that these pictures do not show a tithe of the work that has been done with Alca lime, and that we are making our claims not on the basis of a few hundred tons of this material sold and used, but on the sale and use of thousands of tons; the yardage covered by Alca lime sold by the Charles Warner Company in 1911 exceeding 1,500,000.

We will not go into the practical detail of application of Alca limes, and the other technicalities of sales and introductory work, as this portion of the subject will be very ably handled by Mr. Pierce of the Charles Warner Company, who has been on the firing line since Alca was first put on the market, and to whose efforts much of the success of the introductory work of that company is due. So far we have dealt only with the use of Alca in the field. In answer to the question as to whether or not the use of the material under commercial conditions on a large scale would substantiate the conclusions drawn from the successful experiments of the laboratory, I would say that the experience of the past year has absolutely confirmed the conclusions stated in my paper of a year ago. While we have met with some setbacks and some of our licensees have not met with the success they anticipated, a careful investigation has shown that in every case this lack of success was due to the characteristics of the Hydrate they produced, and not to any defect in the process or the aluminate material. The past year has also given us considerable information from the manufacturing standpoint, and we wish to impress upon you that the production of hydrate for the manufacture of Alca lime requires greater care in manufacture, and more thorough plant control than the production of ordinary hydrate; in other words, the manufacturer of Alca lime must apply the same exact methods of manufacture and chemical control as the manufacturer of Portland cement does. During the course of the past year we have investigated and experimented with a number of commercial hydrates on the market, and regret to have to state that especially with high calcium hydrates the average material is very far from a satisfactory product, lacking in uniformity, and varying greatly in the completeness of hydration, quality of the lime itself and fineness; and our manufacturing experience has demonstrated beyond question that if Alca lime is to be successfully put on the market by any lime manufacturer he must improve the quality of his hydrate and be assured of the production of a uniform product. This requires:

1st. The picking of the lime before going to the hydrating plant; the removal of all core, and underburned or overburned stone, sending only the best material to the hydrator.

2d. The absolute and complete hydration of the material; the hydrator and resulting product being under the careful supervision of a competent chemist, using only that hydrate in the production of Alca which contains no calcium oxide.

3d. The mixture of the Alca with the hydrated lime must be thorough and complete, so that the resulting material will be homogeneous throughout, and there will be no variation in the Alca content.

Many of you may say that our product meets all these requirements, but our experience indicates that it does not. We have found, not in one case but in many, that the hydrate produced by any one plant varies from a completely hydrated material, containing 1 to 2 per cent excess moisture, to a material containing from 5 to 6 per cent of calcium oxide; that the carbonic acid content may vary from 1 or 2 per cent to 20 or 30 per cent; that the fineness may vary from only 50 per cent, passing the 200 mesh sieve to 100 per cent passing, and yet this hydrate was supposedly produced under the same conditions. Not only are these variations noticeable in product produced on different days, but almost as great variation will be found in the ordinary plant during a single day when samples are taken at frequent intervals and subject to careful observation. We have also found that the ordinary mixing devices used for incorporating the Alca with the prepared hydrated lime are not to be relied upon to give a uniform and homogeneous mixture of each batch. We have even found the Alca content in a set of bags, taken from one charge of the mixer, varying from 3 per cent in the case of the lowest, to almost 30 per cent in the case of the highest, where the material was supposed to contain an average content of 15 per cent. This may sound discouraging, and almost prohibitive, to the prospective manufacturer of Alca lime, but in reality the difficulties can be readily overcome by intelligent, thoughtful and careful management. If the lime sent to the hydrator is selected with the same care as you would select your best grades of lump lime; if the hydration is carefully watched, and care is taken to see that all the material leaves the hydrator with from 1 to 2 per cent of excess or mechanically contained moisture present, that is containing from 1 to 2 per cent more water on the total weight than is actually required for complete hydration; if this material is allowed to remain in storage for not less than 24 hours, and is then mixed with the Alca by a proper proportioning and mixing device, and passed through a grinding machine—which we have found will more intimately incorporate the Alca and the lime together than any other method; and if these processes are under the control of a competent chemist who, by frequent analyses, checks the accuracy of the operation, there is no difficulty in producing an Alca lime which will meet all the requirements of a standard article, being uniform in its composition; giving uniform results under like conditions, and, by its superiority to all other plaster materials, selling itself.

hair raise—probably 15 sticks of dynamite, a coil of fuse, 20 or 30 dynamite caps and a whole handful of matches—all messed in together.

"Helps" to avoid accidents with dynamite would be to placard your magazine door, and in other prominent places around the plant tack up a list of "don'ts" and orders as to handling dynamite.

Be sure your men are familiar with safe methods of thawing, supplied with necessary equipment, whether with water thawing kettles, or if large quantities are to be used with a proper thawing house. You yourself decide upon the best method to use and insist upon the carrying out of your instructions.

Use wooden tamping bars—no metal pipe with a wooden plug in the end. The sides are apt to catch on rough pieces, or the blaster could turn end for end and hammer with just what you tell him not to use.

Use a galvanometer on every circuit before trying to shoot; broken wires or a short circuit can thus be located and trouble treated before you throw out a charge of unexploded dynamite with your blast.

Have your man who pulls the battery go to the edge of the shot in person and make sure no one is underneath or in the danger zone before he makes the blast. This little precaution has saved lives before this. Making blasts as an every day occurrence it becomes too common to the shooter and he is apt to get careless at the last moment.

Never allow smoking in or around the magazine nor a fire anywhere near when making a blast.

The blaster must exercise all possible precaution for the safety of the other men and himself, and if you run across him or the water boy carrying a basket of dynamite, caps and matches, a little justifiable homicide would be strictly in order.

The Smith-Totman Company of Chicago, Ill., has been incorporated with a capital stock of $5,000 to manufacture and sell insulating and roofing materials. The incorporators are Julian C. Smith, Arnold W. Totman and Allen G. Mills.

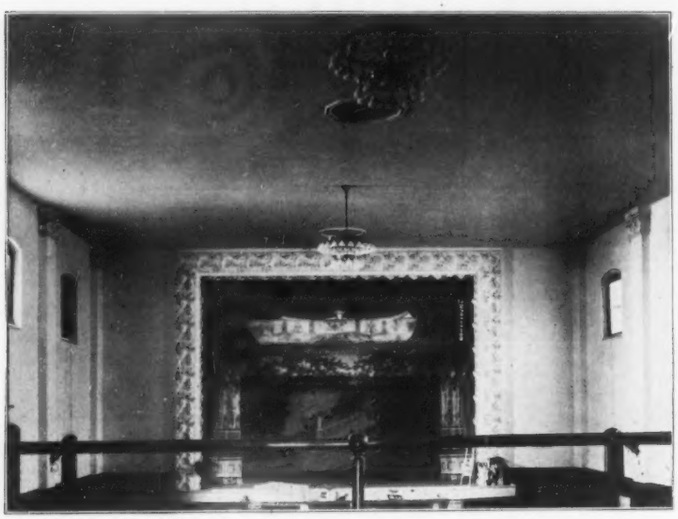
The T. J. Forschner Contracting Company of Chicago, Ill., has been incorporated with a capital stock of $50,000 to do a general construction and contracting business. The incorporators are T. J. Forschner, C. W. Forschner and A. J. Forschner.

The John H. Winn Company of Chicago, Ill., has been incorporated with a capital stock of $2,500 to do general construction and engineering business. The incorporators are Edward B. Lucius, J. Scott Matthews and Gustave Wittmeyer, Jr.

The Hegewisch Coal & Teaming Company of Chicago, Ill., has been incorporated with a capital stock of $1,000 to deal in building material. The incorporators are Daniel Jordan, F. H. Buckmaster and L. A. Jordan.

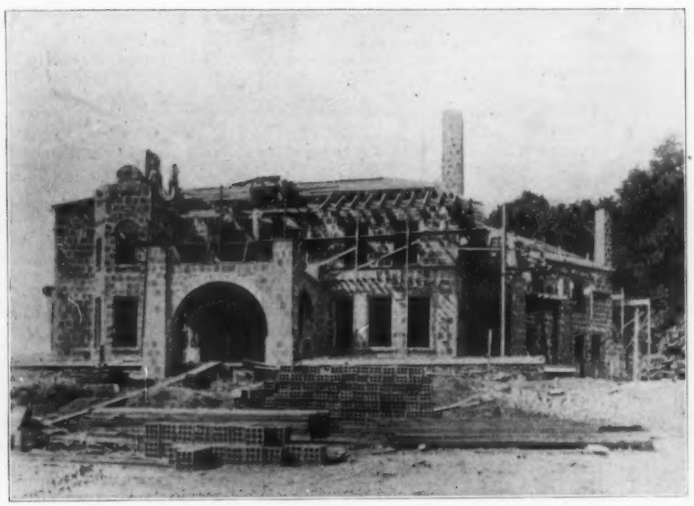
The John A. Wesche Company of Chicago, Ill., has been incorporated with a capital stock of $2,500 to do general contracting business. The incorporators are Joseph V. Carne, James D. Power and Raymond J. Cupler.

ARCHITECTURAL ACHIEVEMENTS OF ALCA LIME



THEATER INTERIOR PLASTERED WITH ALCA LIME.

SAMPLE EXTERIOR PLASTER WITH ALCA LIME.



TILE CONSTRUCTION, USING ALCA LIME MORTAR.

ROUGH CAST EXTERIOR DONE WITH ALCA LIME.

HOTEL EXTERIOR AT ATLANTIC CITY PLASTERED WITH ALCA LIME.

SAMPLE OF BRICK MORTAR MADE OF ALCA LIME.

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MEANS

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SECURITY CEMENT AND LIME COMPANY. TRADE MARK SECURITY PORTLAND CEMENT SECURITY, MD.

The satisfactory results on Government, Municipal and important Private Works in Baltimore, Washington and contiguous territory, necessitating increasing output to 2,000 barrels DAILY, is our strong evidence of QUALITY.

Four railroads, i. e., Pennsylvania, Baltimore & Ohio, Norfolk & Western and Western Maryland Railways, plus a plant storage capacity of 100,000 barrels, emphasize our claim to SERVICE.

Every barrel guaranteed to meet Standard Specifications. Especially adapted for cold weather work.

SECURITY CEMENT AND LIME BERKELEY PRODUCTS BERKELEY, W. VA.

BERKELEY HYDRATE

("The Lime you'll eventually use")

The Essence of Lime in the Finest Form Makes Mortars and Concretes Water-proof Lightens and warms the color tone.

"ALCA" LIME

(Trade Mark)

A perfect and most economical cementitious material for all-around use in mortars, stuccos and in plasters, inside and outside.

Prepared with or without hair.

A reasonably quick-hardening, highly plastic, hydrated lime, ready for immediate use for all purposes.

Our engineering department will solve your problems at no cost to you. Ask your dealer or write us for prices and interesting literature.

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UNIVERSAL PORTLAND CEMENT CO. CHICAGO-PITTSBURG UNIVERSAL PORTLAND CEMENT

Railroads—all the principal lines in the country—the United States Government—the War, Navy, Treasury and Interior Departments—counties and municipalities—public service and industrial corporations—the country's most prominent architects, engineers and contractors—these are all users of Universal Portland Cement.

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Annual Output 10,000,000 Barrels

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Lightest in Color
Highest Tensile Strength

ALWAYS UNIFORM

THE KANSAS CITY PORTLAND CEMENT WORKS. KC CEMENT KANSAS CITY.

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Always the same high quality. Prompt shipment guaranteed and made possible, as each mill is located within switching limits of the two greatest railroad centers of the West. You are assured of your orders being promptly filled.

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WATERPROOF

An Extra Heavy, Extra Strong
WATERPROOF PAPER BAG
For Cement, Plaster, Lime, Etc.

West Jersey Bag Co.

Camden, N. J.

Spring Trade Suggestion

HANDLE

"Chicago AA" Portland Cement

"The best that can be made"

IF you appreciate handling a product which has no superior, and one that by reason of its superiority, is preferred by the consumer; if service, fair and courteous treatment appeals to you; if you value the co-operation of the manufacturer—then we think we can secure your patronage during the coming season. Such is OUR product and our method of marketing it, recognized and appreciated by the dealer for fourteen years. Let's hear from you. A postal card will bring prices.

PRESENT OUTPUT **1,500,000** BARRELS ANNUALLY

Chicago Portland Cement Co.
J. U. C. McDANIEL, Sales Manager
30 No. La Salle St., *Dept. 74* Chicago, Ill.
Chicago Cement Show, Feb. 21-28th, Visit our Booths, 86-87-88.

MEACHAM & WRIGHT COMPANY
CEMENT
CHICAGO

Saylor's Portland Cement
Oldest American Portland
Used by the United States Government since 1876
COPLAY CEMENT MANUFACTURING CO.
SALES OFFICES:
Fifth Avenue Building, NEW YORK CITY
1106 Land Title Bldg., PHILADELPHIA

WHITEHALL
PORTLAND CEMENT
Whitehall Cement Manufacturing Co.
1722 Land Title Bldg.
Philadelphia

ROBERT W. HUNT JNO. J. CONE JAS. C. HALLSTED D. W. McNAUGHER
ROBERT W. HUNT & CO., ENGINEERS
INSPECTION CEMENT & REINFORCING STEEL
CHEMICAL AND PHYSICAL TESTING
Offices and Laboratories
Chicago, New York, Pittsburgh, St. Louis, London, Montreal, San Francisco, Toronto, Mexico City, Seattle

OTTAWA SILICA CO.
Ottawa, Ill.
Washed-Steam Dried and Screened
White Sand

Unexcelled for
- Facing Concrete Blocks
- Ornamental Concrete Stone
- White Plaster
- Roofing
- Exterior Plastering
- Sawing Stone and Marble, etc.

Analysis 99.90%

Prices, Freight Rates and Samples on Application

Shipped in Paper Lined Box Cars or in 175-lb. Bags

You can order less than a carload, in fact shipments as small as five 175 lb. bags can be delivered economically.

LARGEST SHIPPERS OF WHITE SAND IN THE UNITED STATES

"Riverside" Plaster of Paris

is made from the best selected Nova Scotia Gypsum, and is the recognized standard in quality. It sets slowly, works cool, has great tensile strength.

It is the lightest, the finest, a pure white in color, and absolutely uniform.

It has the greatest covering capacity and makes the hardest wall.

If you are interested in Finishing, Casting or Dental Plasters write for our **"Riverside"** Booklet. It tells how all Plaster of Paris is manufactured and why **"Riverside"** is the highest grade of Plaster made.

Rock Plaster Manufacturing Co.
381 Fourth Ave. - - New York City.

Practically all the Successful Gravel Washing Plants are equipped with "S-A." Belt Conveyors and "S-A." Gilbert Screens.

During the past twelve months we equipped the following complete plants.

Akron Gravel & Sand Company
W. E. Austin & Company
Battjes Fuel & Supply Company
Bull Creek Gravel Company
Butler Brothers
W. P. Carmichael & Company
Cassells Cement Gravel Company
Cherokee Sand & Gravel Company

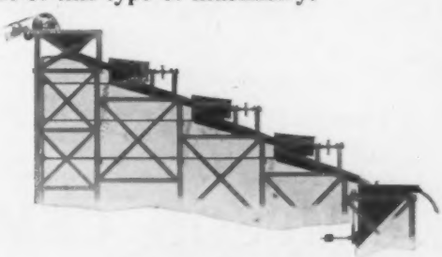
H. D. Conkey Coal Company
Esson Sand & Gravel Company
Flint Gravel Company
Frazier Stone Company
Geo. Gabler Company
Gulf Lumber Company
Joliet Sand & Gravel Company
A. M. Lockett & Company

Louisiana Sand & Gravel Company
Mason City Gravel Company
Millwood Sand Company
New England Construction Company
Norfolk Sand & Gravel Company
Pacific Bridge Company
Chas. K. Spaulding Logging Company
Southern Sand & Gravel Company

Standard Alcohol Company
Standard Sand & Gravel Company
Tarco Construction Company
Tilson Sand & Gravel Company
United States Crushed Stone Company
U. S. Reclamation Service
Valley City Stone & Gravel Company
Walsh-Kahl Construction Company

The above list includes plants varying in sizes from the smallest to the largest in the world. It includes no repair or special equipment orders. It includes none of the plants (over 180) which we equipped previous to the past twelve months.

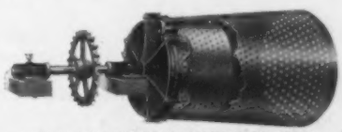
Since the organization of our company we have led in the design and construction of sand and gravel washing plants. Our engineers originated the general design of plant, which is used almost entirely to-day. We have adapted our machinery to the particular requirements of this work and have constantly led in the improvement and development of this type of machinery.



TYPICAL ARRANGEMENT

This shows the standard arrangement of Gilbert Screens for producing washed sand and gravel. In the "S-A" Improved Gilbert Screen, which is now generally adopted, an inner wearing skirt is provided to take the direct wear of the material as it falls from the chute. This skirt is inexpensive, quickly changed and triples the life of the outer screen plate.

The "S-A" Settling Tank, also shown, automatically separates the sand from the clay and loam in the washing water.



"S-A" IMPROVED GILBERT SCREEN

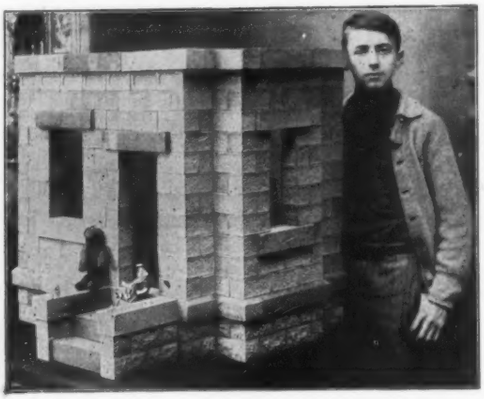
The "S-A" Unit Carrier is the most economical carrier on the market for actual use. The pulleys consist of steel drums electrically welded. These are supported by steel brackets, and are mounted in ball bearings, which operate for six months without lubrication. The carrier may be adjusted to suit any operating condition or any conveyor capacity.

If you are interested in erecting a gravel washing plant, we can probably refer you to some of our plants in your vicinity. Our engineers will be glad to make a special study of your conditions and to submit designs.

Stephens-Adamson Mfg. Company

Aurora, Illinois

Branches: New York, Chicago, Pittsburgh, Los Angeles, Birmingham, San Francisco, Portland, St. Louis



Something Fine for Your Boy

AND FOR YOURSELF ALSO

The cut shows a Doll's House the boy has built for his sister, using real hollow cement blocks, **made by himself** in the SIMPSON JUNIOR CEMENT BUILDING BLOCK OUTFIT. This is only one of scores of houses of all kinds that he can build—a workshop for himself, a chicken coop, a dog kennel, an enclosure for a garbage can, models of residences, schools, churches, stores, etc. Notice the rock face foundation blocks, the bush hammer range blocks, the panel face blocks, the water table, cornices, copings, steps, window and door sills and caps. The Junior Outfit produces them all. This is the latest addition to the list of

Simpson Molds

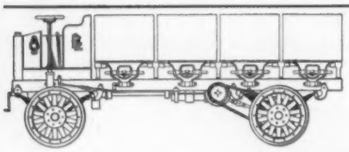
It has wonderful possibilities and is the greatest educational toy a boy ever had—but it is very much more than a toy. The price is THREE DOLLARS, by express, charges prepaid to any point in the United States. We have a special circular telling all about it which we would like to send you.

But this is only one small feature of our business, which is chiefly the manufacture of molds for

Porch Trimmings, Garden Furniture and Other Ornamental Work

Our Catalogue is the greatest in this line ever issued, containing a great number of special half tone engravings of finished porches and other structures. Send for it, using your business stationery or enclosing your business card.

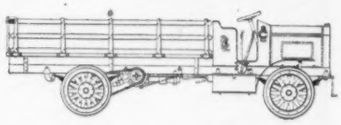
THE SIMPSON CEMENT MOLD CO., 119 VINE STREET COLUMBUS, OHIO



"LONGEST TRUCKS"

(Made in Louisville.)

Both types made in three and five ton sizes.



Not assembled but designed and manufactured complete in our own shops. (We buy only the chains, roller bearings and muffler. Castings made from our patterns.)

After eight years of experience in the Automobile business, both mechanically and commercially, we have in the "Longest" truck selected those points of construction which have proven themselves by test to be right.

Examine our various selections in construction, compare them with the best points in other leading trucks. We have not experimented. Only tried out and approved principles have been adopted.

Our first truck was exhibited at the Louisville Automobile Show in March, 1910. Since then a thorough test has convinced us that we have a first-class article which we can recommend in every respect and which will stand the tests of time.

LONGEST BROS. COMPANY, (Incorporated) **Louisville, Kentucky**

"STAG" BRAND MANGANESE STEEL

WEARING PARTS FOR ROCK CRUSHERS AND CEMENT MILLS

RENEWABLE POINT DIPPER TEETH (Pat'd)

"MISSABE" STEAM SHOVEL DIPPERS
MADE ENTIRELY OF "STAG" BRAND MANGANESE STEEL

EDGAR ALLEN AMERICAN MANGANESE STEEL CO.
CHICAGO, ILLINOIS ∴ ∴ NEW CASTLE, DELAWARE

TRADE MARK.

PERMANENT and THOROUGH
Water-proofing of Cement Work
results from the use of

Maumee Compound

SPECIFICATIONS AND SAMPLES ON REQUEST

The Maumee Chemical Co.
403 ST. CLAIR BUILDING
TOLEDO, O.

QUARRIES

AMERICAN ROAD BUILDERS' ASSOCIATION.

The annual meeting of the American Road Builders' Association was held at the Hotel Astor, New York City, February 2. At this meeting reports of the executive committee, the secretary, and the treasurer were presented. Their reports showed a very healthy and substantial growth during the past year, the membership having increased very materially. Prospects for a much larger increase the present year are exceedingly bright.

The election of the officers of the association is by letter ballot. At this meeting the ballots were counted and officers were declared elected as follows:

President, Nelson P. Lewis, chief engineer Board of Estimate and Apportionment, New York City.

First vice-president, Harold Parker, ex-chairman Massachusetts State Highway Commission, Worcester, Mass.

Second vice-president, J. D. Meriwether, territorial road engineer, Socorro, N. M.

Third vice-president, W. A. McLean, provincial engineer of highways of Ontario, Toronto, Ontario, Canada.

Secretary, E. L. Powers, editor and publisher "Good Roads," New York City, New York.

Treasurer, W. W. Crosby, chief engineer State Roads Commission, Baltimore, Md.

Directors for three years: A. W. Dean, chief engineer Massachusetts Highway Commission, Boston, Mass.; F. D. Lyon, deputy commissioner of highways, Albany, N. Y.; P. L. Hardison, state highway commissioner, Augusta, Me.; S. D. Foster, chief engineer highway department, Harrisburg, Pa.; W. J. Roberts, state highway commissioner, Olympia, Wash.; Clifford Richardson, consulting engineer, New York City, N. Y.

A NEW FIELD FOR CONTRACTORS.

New uses are constantly being discovered for staple articles of trade. The chief uses of dynamite have always been in connection with mining, quarrying and excavating. All general contractors use it to greater or lesser extent in their construction work.

It has also been successfully used for a number of years in stump and boulder blasting. Recently, however, a large agricultural demand for dynamite has been created by the discovery that it could be economically and advantageously used in ditching, draining, subsoil plowing, tree planting and orchard rejuvenation. Owing to the rapidity with which the interest in the explosive for these purposes has spread among farmers and fruit growers, manufacturers of dynamite have become convinced that the farmers and orchardists of the country are going to afford them as large or a larger outlet for their wares than all other markets combined.

The only obstacle to the development of a very heavy consumption of dynamite for agricultural purposes is the fear of the farmer and fruit grower of the explosive itself. Manufacturers are able to convince them of the advantages of its use; they are able to show them that it is economical and beneficial in many ways.

Contractors are beginning to appreciate the fact that agricultural blasting is a desirable field for them to enter. Several contracting firms have already established branches to attend to agricultural work which has been offered them, or which they have convinced themselves can readily be obtained by general solicitation. Most of these contractors have had so much work offered them since taking up this proposition that they have been compelled to increase their working forces and even then some of them are several months behind with the contracts that they have accepted.

The White Limestone Company, of Newark, N. J., has been incorporated with a capital stock of $100,000. The incorporators are S. A. Young, J. O. Bigelow and A. B. Twitchell, of Newark, N. J. The company will quarry limestone and other stone.

Fire destroyed the power plant of the Aetna Cement Company near Fenton, Mich., early last month, causing a loss of $50,000.

OHIO QUARRYMEN.

Annual Meeting of the Ohio State Stone Club Full of Interest in the Good Roads Problem.

According to established custom the rock crusher operators and road contractors of Ohio held their annual meeting at the Boody House in Toledo, on January 23 and 24.

There were four sessions of the convention as detailed below, and two evenings of social recreation in the shape of theater parties that were participated in by all of the delegates.

President George B. Christian, Sr., led the meeting in his own genial and able way, and the 1912 convention he considered the best as well as the most important one ever held.

A. Acton Hall, of Piqua, was elected president and H. W. Hawblitz, of Toledo, secretary and treasurer for the coming year. Both are young and energetic men of exceptional qualifications for their respective responsibilities, and both realize that there is a big mountain of work for them to do.

At the time of adjournment President Hall had not appointed his working committees, preferring to make the appointments later after carefully looking over the coming activities and consultation with the men who are to help most with the work.

The following constitute the new board of directors: George B. Christian, Sr., Allen Patterson and F. Lawson Moores.

OPENING SESSION.

The convention was called to order by Colonel Christian, who apologized for being late by explaining that he was the only one on time. In a characteristic little speech he struck the keynote of the occasion by giving a brief review of the horizon of activity that lies in front of the club. He called it "an impromptu address" that has been the subject of deep thought for more than three weeks. By the time Colonel Christian was ready to close his remarks by announcing that the convention would be addressed by Mr. Taylor, of the Ohio Good Roads Federation, at 1:30 the hall was well filled with members who reached the city on belated trains. In fact, late trains was a common complaint of the occasion.

Secretary W. H. Loy read the minutes of the last meeting, which were approved as read. In his capacity of treasurer he exhibited the financial report, which proved to be equally satisfactory, the secretary-treasurer at the close of his report asking for the auditing of the books.

The session closed with a recess for the purpose of issuing red, white and blue badges and receipts for dues. Following is the roster of the attendance, which is not complete because several members failed to register:

Bluffton Stone Co., Lima, O., Joseph Patterson.
Brokensword Stone Co., Bucyrus, O., Isaac Nussbaum; F. S. Quilter.
Chesapeake Stone Co., Olive Hill, Ky., H. G. Ireland.
Erie Stone Co., Huntington, Ind., C. W. McKee.
Erie Stone Co., Van Wert, C. L. Ireland.
France Co., The, Toledo, O., N. R. France; G. A. France; W. R. France; H. W. Hawblitz; W. H. Behler.
Goetschious Stone Co,, Lima, O., M. P. Goetschious.
Hancock Stone Co., Findlay, O., W. H. Loy; J. P. Pogue; H. Heischman.
Kelley Island Lime & Transport Co., Cleveland, R. E. Haarsch.
Moores Lime Co., Springfield, O., F. Lawson Moores.
Ohio Crushed Stone Co., Dayton, O., L. C. Hatch.
Ohio Marble Co., Piqua, O., A. Acton Hall.
Ohio & Western Lime & Stone Co., Marion, O., Julius Martin.
Reinheimer Stone Co., New Paris, O., C. L. Reinheimer; D. F. Reinheimer; E. L. Reinheimer.
Rocky Ridge Lime & Stone Co., Rocky Ridge, O., W. F. Almendinger; Charles Rauch; W. H. Kulow.
Ryan, C. W., Maumee, O.
Tarbox & McCall, Findlay, O., Harry Tarbox; J. A. McCall.
Toledo Stone & Glass Sand Co., Toledo, O., Willard D. Robinson; Geo. Steim.
Wagner Stone Company, Sandusky, O., Wm. Hendrickson; A. M. Wagner.
White Sulphur Stone Co., Marion, O., Geo. B. Christian, Sr.; Geo. B. Christian, Jr.; O. P. Bird; J. F. Dombaugh.
Rock Products, Chicago, Ill., Fred K. Irvine.
Aetna Powder Company, Chicago, Ill., Madison Whiteside.
Broderick & Bascom Rope Co., St. Louis, Mo., H. W. Richards.
Burton Powder Co., Pittsburgh, Pa., Joseph H. Burton.
Cyclone Drill Co., Orrville, O., B. G. Cope; R. R. Sanderson.
Dupont Powder Co., Pittsburgh, Pa., P. N. Dennison.
Loomis Machine Co., Tiffin, O., Bruce Z. Good.
Main Belting Co., Chicago, Ill.; S. C. Haines.
Pluto Powder Co., Waterville, O., H. C. King.
Troy Wagon Works, Troy O., Nathan Frank.
Williams Contractors Supply Co., Columbus, O., W. W. Williams.

AFTERNOON SESSION, JANUARY 23.

With a very full attendance of the membership President Christian called the meeting to order with a sketch of the problems that confront the road contractors and quarry operators of Ohio. More than $10,000,000 of invested capital is represented in this meeting and that is the exponent of one of Ohio's important industries. Ohio is essentially a manufacturing state. She is supported by her industries, which have grown in magnitude until her agricultural products have become insignificant. He compared Ohio to Iowa, a sister state having about the same number of square miles but more productive of agricultural products and more essentially an agricultural state. Ohio could never occupy her position without the industries that have been built up in her midst, and we have always had plenty of tinkers down at Columbus in the political field to discuss the referendum and recall and all manner of isms and doctrines, but what you and I want to know refers to two other R's, namely, railroads and what railroads want ballast is the grand question with most of us. The same lawmakers have discussed these philanthropic propositions to great length but never get down to practical questions when they know it. They turned us down in the simple practical proposition of adopting a standard unit of measure of a fair and honest observation of crushed rock delivered on road contracts. They learnedly discussed the use of convict labor on road work without any practical knowledge of the fact that roads are now built with improved machinery with very little labor other than that of skilled labor, which is required to operate more or less complicated machinery. They have agitated the equipment of state quarries for the production of crushed rock for road purposes upon the supposition that anybody can run a crusher plant economically. I am satisfied that any of us can furnish rock in the proper sizes for building roads just as cheaply as it will cost them to produce the same material in a quarry operated by state officials. In fact, we can sell it to them, and are selling it to them, for less than they can produce it under such conditions. It is a fact that our line of business suffers more from unjust competition than any other, and with the Valentine law and the Sherman we are unable to discuss the matter of price and cost with one another without being outright lawbreakers. Everybody knows that the milkmen have to have an agreement as to the price of milk which they supply. They would have us believe that the saloon keepers haven't got a right to all charge the same price for a glass of beer or that the barbers have no right to quote a uniform price for a shave. In fact, there is no kind of a commodity produced or service rendered that does not need an agreement fully understood or expressed as to what such commodity or service is ordinarily worth, that people can base their calculations on what their daily and regular expenditures are going to be. It is a matter of fact that our daily newspapers are rotten in the attitude which they assume towards the business interests of the state and country at large. Every man has to admit that when hay is at $21.00 a ton, the price of butter has got to go up to 60 cents a pound. Yet, if two road contractors get to talking about the price of producing rock in their quarry, it is a restraint of trade. As a matter of fact, stone is sold in Ohio 35 to 40 per cent cheaper than in any other state, and it is my honest opinion that we frequently furnish the material below the cost of production. Now, we are essentially road builders and we want to secure state and government support of the roads, and we want to have an appropriation and the actual construction of the roads properly distributed. The constitutional convention now in session wants to recognize the facts that bear upon the shape and conduct of our business. We all want and need prosperity and the upbuilding of business, and we want those men who are working on the new constitution to use their reasonable intelligent endeavor to increase our prosperity by giving us the right kind of laws. We hope to have an amendment of the Smith law so as to provide for repairs of roads that are made and thus preserve permanently the improvements that are being made. Those men who are working on the new constitution can and should so amend it as to provide for the

future of the road proposition in the state, and the maintenance is quite as important as the building of roads in the first place.

I see that Mr. Taylor has arrived and, as he will only be with us this afternoon, I will get him to now take the floor. Mr. Taylor is the representative of the Good Roads Association in Ohio. He is the exponent of all of the energy and all of the concentration that has been brought to bear on the road question, which is of so much importance to all of us, and it is up to us to stand together in these matters. I have the honor of introducing Mr. Taylor.

Mr. Taylor is gifted by nature with the kind of eloquence that electrifies his hearers. He began with the expression, "Fellow Highwaymen; I realize that there is no need to talk to you stone men upon the need of road construction. I had assumed that the stone business was a very profitable one and I am astonished to find that no money has been made in the last year. It must be your own fault for you are producing an indispensable product for the construction of an improvement which can be not long dispensed with or postponed. It certainly looks to me as if it is time for you to hold an executive session and fix things up so that you will understand the problems of your business. I believe, and every other sane man in Ohio believes, that you and every other business man is entitled to reasonable profit in your business and it is so understood. The Good Roads Federation, of which I am a representative, has been said to be composed of road fools who are not interested in any way with road-making materials, but who give their whole efforts and power to the task of securing appropriations and contributions for building roads. We know what the drawbacks are in getting a road built in Ohio and just how disappointing the appropriations and contributions are in these matters. The managers seem to think that any time is good enough and they keep putting it off from day to day. Road building is one of the most ancient as well as most civilizing efforts in the human family. The road builders of Carthage and Rome made possible the movements of those armies which carried the early civilization to the uttermost parts of the continent of Europe from which our civilization has been derived. It has been conservatively estimated that $2,000,000 of American money has been spent in Europe by tourists because they have found good roads throughout the continent. These very people, for the most part motoring cranks, have been driven away from America on account of bad roads and impossible motoring conditions which exist here. Throughout Europe they have, for centuries, been building and improving their roads. The cost of hauling farm products over American roads, taking a grand average, amounts to 23 cents per ton, taking short hauls and long hauls into consideration. On the same basis, in England the cost is 10 cents per ton; in France, 9 cents per ton, and in Germany 8½ cents per ton. This makes a tremendous difference in the cost of living and it can be attributed to no other cause than the difference in the condition of the roads over which food products have to be hauled in this country, for it is a well known fact that the American farmers have better equipment in wagons and teams than either the English, French or German farmers, and the difference is in the roadbed itself. It makes me tired to meet farmers who are reading magazines about things miles and miles away, while right in front of their doors there is a great question to be settled for the good of their homes in the present and for the future and which amounts to a very profitable and immediately collectable asset in the value of their farms. It is a matter of fact that we dump $400,000,000 every year into the mud by having soft roads at the very time of the year when we need a good hard pathway to the markets, and this $400,000,000 is added to the cost of living and calculated in the price that we have to pay for butter and eggs, meat and potatoes, which has come to be the crying complaint of all the people. You have not been taking the proper interest in the application of your product to road building. When you sell rock delivered on the road, you have been letting somebody else attend to your business by prescribing just how you shall use it; just how you shall handle it and just how the road shall be made. I believe that the men in this room know more about the actual practical application of macadam to make a good road than all the legislature that can be assembled at Columbus. If anybody needs a school it is the crushed rock producers of Ohio and the so-called road experts. Public sentiment is the final law of this land and we can get good roads by legislation if we secure the unbiased opinion of the public and the public interested in the proposition. I don't think there is difficulty about national aid in the road proposition. The old Cumberland and the National road were started in the early part of the 19th century under the constitutional right which the government has to construct post roads. No such right has been taken away from the government and it still exists. The government has just as much right today to contribute to the construction of roads for the superior service of the rural free delivery as it ever had to build post roads when all of the mail was carried by the stage coach. All of the roads that are being built in the Philippines, in Porto Rico and Alaska are being built by government aid and nobody questions its constitutionality. One might just as well question the constitutionality of the large expenditures for the Panama Canal, for a canal is nothing more or less than a water roadway and the wagon road to cross the canal zone was one of the first roads for the government to make. There was also $10,000 to make an experimental or sample road in the District of Columbia, and by the suggestion of President Taft this road was laid so as to connect the gate of Chevy Chase golf club with one of the Washington boulevards. I do not consider that nationally it was a very complex problem, except that it is offered by people who are not in favor of good roads to find the objection and difficulties. The trouble with the road laws of Ohio is that we have too many road laws so that we cannot tell when they are off and when they are on. If you can get the Brown law and read it, you will find that it is perhaps the best road law that we have, but it has not been put in operation in more than a few counties. I believe that if you practical road builders would study the Brown law you would think more of it. I agree with what Colonel Christian has said, that the new constitution, which is now being put into shape by the officers at Columbus, must be shown how to provide for better roads. It is a campaign for the consumers as well as the producers. It is a campaign which we must all undertake for ourselves and for our neighbors. It is a campaign for the general uplift of every citizen. I could talk on till morning, but I know very well that every point in favor of good roads that I could make is already an old story with you men of this road builders' organization and in closing I want to exhort you to do all you can to back up the Good Roads Federation in the campaign to give our lawmakers the clearest and best information in the most unbiased and fair way upon the subject of good roads of Ohio, which is today in my mind one of the greatest needs of all the people in the state." (Prolonged applause.)

Colonel Christian expressed the appreciation of the club to Mr. Taylor for his eloquent address and remarked that 42 cents per ton was the average cost of road rock in the state of Ohio during the year 1911.

Mr. Hatch said: "It appears to me that we have got to have a publicity campaign in order to educate the public as to the full value and real cheapness of macadam roads. We have got to support such a campaign and build up our business of road contractors in place of cutting and slashing at one another independently. All this bunk about the automobile cutting up the roads is carefully edited and published by the brick organization, which wants to sell its seconds for road building at $1.85 per yard, making a road cost $103,000 for eight miles of road. All of this agitation is the deftly drawn up and carefully expressed advertising of the brick interests and other interests who manufacture road materials other than old-fashioned dependable macadam, which never has a word said in its behalf, but which is always held up for the comparison of other materials to take a shot at. It has come to my knowledge that cement manufacturers and the concrete interests in general want to get busy in the good roads game and they want to use the product of our crushers. I read in ROCK PRODUCTS and elsewhere of the progress which has been made in this direction, and it has been demonstrated that we can put in a good hard concrete base, using crushed rock in concrete, that will beat any brick road that ever was laid, and it is cheaper in the upkeep as well."

Mr. Moores: "I like that suggestion and think that perhaps we could work out some plan, as the brick men work, in this matter of beginning a campaign of the merits of macadam road to the powers that be. I was at the Good Roads Federation in Richmond the other day and it is worthy of comment here that Ohio was better represented than any other state."

Colonel Christian remarked: "When it comes to a comparison between the macadam road and the brick road it is easy. It costs just about 50 cents per square yard to make a good macadam road and $1.85 per square yard to make a brick road, the relative values of the finished article in both cases being about the same.

"Mr. Ireland said that Van Wert county has 700 miles of rock roads. More than any other county in Ohio. The main road is sixty feet wide and ten inches deep. The laterals are eight feet wide and ten inches deep, and all of the rock used is two-inch mill run rock. With all this mileage of roads there is no available appropriation for repairs, and it naturally gets worse and worse from year to year."

George B. Christian, Jr., said: "I have done some work down on the old National road and find that a good road. The new work that we put in is to my way of thinking something like the best road that was ever built in Ohio, and it is due to the fact that all the work was put in on tonnage basis, that is, the contractor delivered his rock and was paid by the ton. I consider that poor roads are made in the first place by trying to make one yard cover what a yard and a half ought to cover. The new road in Franklin county, over the old National Pike, was made in two layers. We put in fine stuff on the bottom and coarse on top. The tar was poured on in tanks and put on liberally, after which just enough fine screenings were put on the surface to keep the roller from sticking. The tar that was spread on the surface certainly aided materially in making the roller work to the good. This road is 16 feet wide and the estimated cost is $80,000. We used tarvia at 10 cents per gallon."

Mr. Moores remarked that down in Cincinnati they were going to have a whole lot of repairs with tarvia roads as in many places it is getting skinny in spots.

The hour being late Colonel Christian suggested that a motion to adjourn for the day would be in order.

The evening was spent in a grand theater party, which was organized by George B. Christian, Jr., who had secured the passage of a motion, early in the day, for the club to buy the theater tickets. It was a vaudeville performance, and most of the members were well behaved in the crowd, including Lawson Moores and Dennison, and everybody enjoyed the evening immensely.

MORNING SESSION, JANUARY 24.

As usual the delegates were a little late in taking their places, but Colonel Christian started things off with a rush at that number on the program entitled, "Are Present Demurrage Regulations and Charges Equitable and Just—How Shall They Be Amended?" He explained that the various railroad representatives in the city of Toledo had been invited to be present to take part in this discussion, and that they had promised to attend, but in looking over the audience it was found that none of them had as yet put in an appearance. Colonel Christian remarked that the railroads were an essential part of modern commerce, and they should be backed up in all the good things that they do, but not necessarily in every ruling that they make. I am not one of that class who consider that nothing that a railroad can do is right. I consider that a reasonable prosperity of the railroad interests in general, is essential to your business and my business. The trouble is that the railroad management do not believe in the representatives of business men, and the business men, as a rule, do not believe the statements of the railroad management. In these times every political demagogue has got his knock at the railroad in order to sharpen his political axe. It occurs to me that the business men who are shippers ought to get together with the railroad people and co-operate with one another so as to be reasonable on both sides. Now, the treatment of this demurrage proposition is worked out entirely on the basis of distrust, and the way it has been applied to the stone business particularly, the burden has become so great as to eat up all the profits of the business in some cases. This year we have all realized that it is impossible to haul crushed stone on the right of way of the railroads after a heavy rain. Here is a place where we have a right to demur over a condition in which we have no control nor has the railroad. Certainly somebody has authority to bring this demurrage question to a fair basis. In order to work it out the railroads must be fair and give just what they demand. We should take the position that we want to get a square deal and give a square deal and if they have a right to demur at our unloading proposition we have the right to demur at their lack of deliveries. I once had to ship a car of stone per day for fourteen days to one customer and he never got a car for two weeks. The railroad agents of country stations particularly have no power of discrimination as a business man and no contractor can exist when his business is held up by rigid rules that are written in the office somewhere which do not apply to local conditions at all. It occurs to me that what we want is credit memoranda for prompt unloading which can be applied on demurrage bills when conditions make prompt unloading impossible. I would suggest that our representatives get together with the state railroad commissioners and work out some friendly, fair and equitable basis on which to proceed, and I know that, as a rule the railroad men are good business men and would hail with joy any measure that will permanently improve their business.

George B. Christian, Jr., said: "I can see that nothing is the matter with the rules of demurrage at present. The trouble is, as a rule, with the crusher men. I think that the rules the railroads have made are very equitable when properly administered. They have got a credit memorandum system and the way I see it, the particular needs of our business is to have an explanation, honestly expressed, so that the railroads understand what we need to enable us to do more business and put away more money. I do not think there is any doubt of the result of such an undertaking if it is properly managed."

Mr. Ireland said: "I understand that there is a bureau, composed of representatives of all railroads and that they meet occasionally and have to draw the line somewhere on demurrage matters. On the average plan of demurrage charges, there has never been any account taken for rain or mud, and the unfair part of the present plan is the case where fifteen days of impossible haul occurs and then it operates so as to punish the innocent man. I suggest that we draw up resolutions, as one of the industries of the state, and take the matter up intelligently for the attention of this bureau, and I think we will get results. We must have a definite line of action so that we can get ourselves properly expressed."

On motion this matter was referred to the Executive Committee to provide for such action and carry the same to the attention of the parties at interest.

Mr. Ryan, speaking, suggested: "Why should it not be fair to settle demurrage on the basis of one year's operations? 'If I get credit for unloading, when I do it in an hour or two after delivery of the car, the railroad ought to pay me demurrage the same as I have to pay them. I think if we get a law to get the co-operation of the people, it would pay. I consider that the demurrage law is radically wrong, although I have never paid a dollar."

Colonel Christian: "I have been a producer and contractor for twenty-five years. The suggestion that we go to the railroad people with equitable plans is a good one, and I am sure that they would meet us half way and treat it as a business proposition. Our demands must be just in the first place, and if we insist on them, we are sure to get what is right. I believe that we can get a division of rates where the haul is over more than one road if we can put a clear and distinct plan before the railroad people, because it would give them a great deal more business, and could be fairly done. If we fight for a square deal and no more we are sure to get it, and this can be done by establishing a balance sheet to give and to take. We are certainly entitled to credit for cars unloaded ahead of time to apply on the unloading of cars where we are delayed in the unloading. The committee who takes charge of this must lay aside all prejudice and I want our Executive Committee to go before the Commission with a well considered proposition, and I move that a committee of five be appointed to undertake the matter."

The motion was duly seconded by Mr. Quilter, of the Brokensword Stone Company.

George B. Christian, Jr., said: "I do not think anything unfair ever existed. It is our own fault that our kind of needs have been misrepresented. The present demurrage rules have been forced upon the railroads by the Ohio Shippers' Association. It is the local haul of the road contractors that has not been taken into consideration. Beyond question, the railroads are in favor of good roads and are disposed to do all they can to intelligently assist the matter and make more money out of their own business thereby."

Mr. Ryan: "It is not the big railroads nor the big railroad men, but it is the small roads that the contractors are up against in these demurrage matters. It looks as if they try to make their profit out of the demurrage collections."

This closed the discussions and the motion was unanimously carried.

The next measure taken up was the consideration of the "Smith Tax Law; What Amendments Are Necessary for the Benefit of Road Construction and Repair?"

Colonel Christian said: "The Smith bill has been much commended both throughout the state and nation, but, as a matter of fact, it does not just work out like it was supposed to do. In the adjustment of tax valuations of the state, it shows that the people of Ohio have been honest in making out their tax duplicates, so that the collections under the Smith law were not as much as were expected. I have been a farmer all my life and I never saw a farmer who paid his just share of taxes. I am willing to offer a prize of $50.00, to be paid to any church in Marion, if any farmer paid his just taxes. Some farmers have doubled their taxes. The railroads are certainly taxed plenty, and this Smith bill, to my notion, wipes out the democratic form of government and erects a county and state czar, respected in each country. I want the state eliminated in the matter and have each county attend to its own business. I observe that under the Smith bill every kind of improvement has been stopped. It is good in its meaning but it is crude, and the worst feature of all is that the Smith bill won't let repairs be made and gets away from the main issue of home rule in road building."

Mr. Quilter: "There seems to be plenty of road petitions and except in several injunction cases, I think there is going to be good business in road building this year."

Mr. Reinheimer remarked that in small townships the Smith bill does not hurt, but the labor proposition is bad where corporations and towns are in the calculations. Some township officials would increase their repair appropriations if they could.

Colonel Christian: "The repair bill of some of the big counties is something awful."

Mr. Hawblitz: "In a number of the counties where I have been this past year, they have been up against the one per cent limit. The rural vote invariably turned down the petitions in Lucas county. There are 125 miles of brick roads in Lucas county. In Cuyahoga county brick roads are built exclusively and there are 200 miles of them."

George B. Christian, Jr.: "I consider that the Executive Committee ought to take up the matter of road materials with the constitution, which is now in session. They might be able to get something through." Mr. Moores: "The Good Roads Federation is supported by voluntary contribution. The brick men gave them $4,000 as an association; the asphalt interests, $1,000. The Automobile Association also gave liberally. Their campaign is going in on the square without troubling with the liquor proposition or any other side line, and I feel that this association ought to support the Good Roads Federation in so far as they can."

The election of officers was next taken up and Mr. Moores suggested that a committee of three be appointed to nominate the officers and announce it at the opening of the afternoon session. This was seconded by Mr. Loy.

Mr. Ireland offered an amendment that a committee be appointed to nominate one president, one vice-president and five members of the executive committee. This amendment was accepted by the presenter and seconder of the main motion, and duly carried.

President Christian appointed Messrs. Moores, Ireland and Loy on this committee, and the convention adjourned for luncheon.

AFTERNOON SESSION, JANUARY 24.

The closing session of the convention was called to order and Chairman Moores of the Nominating Committee announced the following ticket:

For President—A. Acton Hall, of Piqua.

For Vice-President—Morris P. Goetschious, Lima.

Secretary-Treasurer—H. W. Hawblitz, of Toledo.

Executive Committee—George B. Christian, Sr., Allan Patterson and F. Lawson Moores.

On motion of Mr. Quilter, and seconded by Mr. McKee, the report was adopted and the secretary instructed to cast one ballot for an expression of the vote of the convention.

Colonel Christian announced that the hour had come when the associate members and material men present should have an opportunity to talk to the convention.

Madison Whitesides, of the Aetna Powder Company, was called on to talk on the subject of "Explosives" after Colonel Christian had referred to the number of quarry accidents which have occurred in central Ohio recently.

Mr. Whitsides said: "Explosives are frequently handled carelessly in spite of all that we are constantly saying and doing to caution them in every way that we know how. I find men gathering in the thaw house to eat their lunch, and in cold weather I have frequently seen red hot stoves in the thaw house and the stove entirely surrounded by dynamite in boxes and in exposed sticks. It is a matter of fact that powder salesmen find that unsolicited advice and caution of these matters is not always received kindly, and unless asked he will seldom go into the future at all. It is true that scarcely a quarry accident occurs which could not have been avoided if somebody had only been careful of the very things which the powder manufacturers had cautioned them against time and again. I am certain that my company will be pleased to send plans so that any one can build a standard thaw house that will be safer than any other. At present the thawing proposition is indispensable with the class of explosives that have to be used in quarry operations."

Mr. Quilter: "I thaw dynamite with manure. I tried various powders, but could get better results by burying the box of dynamite in the manure pile."

Mr. Whitesides: "In all such cases dampness must be avoided. Damp places make a very dangerous condition for dynamite."

Mr. Bird: "I am afraid of dynamite. We had a steam arrangement at first, and I kept from three to five hundred pounds of powder there. I do not like thaw houses as a rule, and I have found that burying the box has given us fairly good results."

George B. Christian, Jr.: "How many of the members have noticed what the workmen's views are on the employers' liability?"

Colonel Christian: "As a matter of fact, we handle our dynamite very cautiously, as a general rule, in the quarrying business. I consider the farming business as the most hazardous business in the world. The vicious bull, the runaway horse and the many other accidents of farm life kill more people annually than are injured in quarries by dynamite. When it comes to the employers' liability proposition, it looks like the best way to get along is to be so very poor that nobody will expect you to pay anything."

Use of Dynamite.

Mr. Dennison, of the Dupont Powder Company, was next called on, and he remarked that dynamite is safer now than it was some years ago. He is always prepared for such occasions and had written up a brief memorandum of points to be observed in the use and handling of dynamite, which were well received.

Referring to the drill hole, Colonel Christian said: "We are using 25 holes and putting them down with well drillers. I consider the big hole shot just as much safer as the number of holes is dangerous. Each blast hole is a distinct risk and by using big ones and fewer of them we get less risk and the same or greater results. The trouble with using explosives is that familiarity often breeds contempt. I consider the fearless man about the handling of dynamite is just simply a fool. I have always been afraid of it and always will be."

Mr. Patterson: "I have been the hole blast man of our concern for years. I have personally conducted the shot myself for a long time and my opinion as an expert is that you cannot be too careful."

S. C. Haines, of the Main Belting Company, was next called on to explain why he charged more for belts than anybody else. His answer was brief and to the point: "Because I sell the best one that you can buy." (Laughter.)

"You all know that I have been selling belting for years and I have tried to study conditions under which belts are used in the crushing business, and I have given it a great deal of attention and got my company to go into the matter, and I can say to you that we make an elevator belt that can be put on and running in twelve hours, which was one of the early problems. We make belts for all purposes, but we do make belts for and give special attention to the needs in crushing plants, as the equipment of nearly everybody present will testify, in some parts of their plants."

Mr. Moores: "I just want to ask just how much stretch there is to that belt that can be put on in twelve hours?"

Mr. Haines: "Five years ago there was considerable stretch in elevator belting, but I can safely say that we have overcome that now. We have no trouble reported on that score nowadays."

Mr. Moores related his experience with the rope drive and heavy elevator backing up so as to fill the pit.

A hearty vote of appreciation to ROCK PRODUCTS was carried and Mr. Irvine made a few remarks extolling the good work which has been done by the Ohio State Stone Club since its organization and the intelligent and conscientious manner in which they are working out the problems of their business so as to secure for the state of Ohio the best obtainable roads and more of them for the money that the people have to invest in such improvements.

Mr. Loy moved that the Ohio State Stone Club give its support and co-operation to the Good Roads Federation. This was seconded by Mr. Quilter and carried unanimously.

The secretary was instructed to send a report of this motion to the Federation and to the Executive Committee for further action.

In conclusion, Colonel Christian read a letter from Clark A. Burgess, of the Ingersoll-Rand Company, as follows:

New York, Jan. 23, 1912.

Hon. George B. Christian,
Honorable President,
Honorable Ohio Stone Club.

My dear honorable and ever respected Uncle George:

Once again I greet you. This time from the East, where the salt sea breezes waft their captivating and bewitching enchantment on the rich and poor alike; for as yet they are not controlled by a trust, neither are they dominated over by the pure food laws.

I am in New York—as my expense account will authenticate, and the wretched condition of my bank account will confirm. My family are also in New York—which explains the reason why I am still working twenty-six

(26) hours a day in an honest and immaculate endeavor to have at least three (3) pennyweights of sixty-cent (60c) butter in the house when friends or even relatives are attracted by such an obvious and notorious display of extravagance.

In writing you again, I trust you will allow your sympathy and forbearance to predominate in my behalf, and enjoin your true sensibilities in becoming manifested.

The object of my letter isn't so much for the purpose of embarrassing you for not answering my last six or seven messages, as is my purpose to thank you and the Ohio State Stone Club for so kindly remembering me with your 1912 invitation.

Again, I want to congratulate the club in having such an estimable, persevering and always successful presiding officer. It is unimpeachable evidence that their standard of character is as dignified and irreproachable at the present time, as when I was in the habit of assisting the club in determining and selecting the pilots in the earlier days. I know you have given the club an invaluable service, that your accomplishments are inestimable, and will prove more priceless as time grows on. I know you have had many obstacles to surmount, and that you have been victorious in meeting these unpleasant experiences, for you never surrender.

I sincerely believe all I am saying, for I know that the club has expanded and progressed to a wonderful extent; that you are not standing still or even faltering, but instead, are becoming a more important and substantial factor to be recognized in your demands for a fair and impartial treatment, and compensation to be accorded to industries you represent, and for the promotion of poor roads to good highways, and in developing good highways to the best obtainable.

Let us hope that the period when the poor highways, which have heretofore been made good by invariably making good quarrymen poor, will exist in history alone, and will serve as a valuable reminder to those who have and are still underestimating the extent of their generosity in this respect, and that crushed stone like the proverbial rolling stone gathers no moss even to an extent as to be considered an asset or the basis of a credit report, by even the most charitable and benevolent credit agencies.

Do not be moonshiners in your business and boot-leg your product. You have a legitimate business, a legitimate commodity to market, and there is no reason why you should not get a legitimate price.

You are on the right track, and all seeming danger signals are merely phonies, and are purposely displayed to influence the timid, and no quarryman will notice these little things unless his backbone be constructed of the same material as the ribs of the Pioneer Umbrella, and his liver is anchored by a swivel attachment and flops wrong side up and inside out even at shadows. Forge ahead for your ultimate destination is already predicted, and acknowledged, and you have only yourself to blame if you purposely throw a switch by hesitating or procrastinating.

I regret I can not be with you in person, but rest assured my thoughts and best wishes are there in an unqualified condition. I wish it were possible to step in and shake hands with you and the members of the club, all of whom are my friends and whom I cherish.

Kindly remember me to everybody present, and I wish to admonish you all not to forget that when you visit the Metropolis you will ever be made welcome at No. 11 Broadway, and you will never find me too busy to give you every attention possible.

May God bless you all with the best of good health, and the greatest prosperity you have ever enjoyed.

Yours very sincerely,

C. A. BURGESS.

He then introduced Mr. A. Acton Hall, the newly elected president.

President Hall: "Gentlemen of the Ohio State Stone Club, I approach the duties of this high office to which you have elected me with the fear that I shall not be able to accomplish as much as I would like to see brought about. I want to ask of each member here, as well as those who are not present, for their active coöperation and frequent correspondence on subjects pertaining to the good of the trade and the industry in which we are engaged. It is my opinion that if you will all keep in touch with me in this way, I shall be able to do a great deal more than if you just leave it to me to do the best I can. I am certain that this organization contains a great deal of downright ability which should be employed by the organization, and in accepting this office of president I want you to know that while I am willing to do all that I can, I want every man to feel that it is up to him, and it is pretty sure to help me make better results than I could possibly expect to without your assistance. It is my intention, with the secretary, to reach every member of this club at least once a month, and if we can get active coöperation of the membership it is certain that we can accomplish some good results." (Applause.)

Mr. Hawblitz, the newly elected secretary, was called upon and said: "I am accepting this job because my friends and associates here have honored me with their vote, and I intend to do all in my power to fill my position with satisfaction to every member, and in coöperating with Mr. Hall it is my hope that when we come to our next annual convention you will all feel that you have not made a mistake in the selection that you have made for your secretary-treasurer."

On motion the convention adjourned sine die.

MILWAUKEE QUARRY NEWS.

Milwaukee, Wis., Feb. 18.—The action of the Chicago, Milwaukee & St. Paul railroad in demanding increased rates for shifting freight cars through the switching district of Milwaukee is causing no little concern to the crushed stone interests of Milwaukee and it is said that it may result in the bulk of the business reverting to one big concern and the "freezing out" of the smaller companies. The crushed stone question in its relation to the increased rates came up before a recent hearing of the Wisconsin railroad rate commission held in Milwaukee.

G. D. Francey told the commission that if the new rate promulgated by the railroad company be allowed to stand it would put his concern, the G. D. Francey Coal, Stone & Supply Company, out of business.

"We are supplying crushed stone to Milwaukee patrons from our quarries, five miles out of the city, on a very small margin of profit as it is," said Mr. Francey, "and we went out there and undertook the operation of that plant three years ago only after having been informed by the Chicago, Milwaukee & St. Paul road that the switching charge would be $5 a car. If we had known that there would have been a higher rate we would not have embarked in this enterprise. The $5 rate is as much as the business will stand."

A. J. Blair, of the Lake Shore Stone Company, dealers in crushed stone, thought there should be as high a rate for the short switching haul as for the longer. His company has a quarry 22 miles out and he said he thought it should have as good a rate as possible to secure. His company, he said, also ships in a lot of crushed stone on the lake and river, which is not influenced in cost by switching.

The members of the state railroad commission discovered that it is true that if the new switching rates prevail the Francey quarries would likely have to close, also probably the quarry from which the Lake Shore Stone Company brings some supplies on cars.

Mr. Francey said, after testifying, that he believed the demand for an advanced shipping charge might have emanated in part from interested parties engaged in local industries who would thrive more satisfactorily, probably, if some of the smaller concerns, which are not equipped to withstand greater fixed charges in marketing their products locally, became victims of a process of elimination through railway discrimination.

W. O. Hotchkiss, of the Wisconsin State Highway Commission, has negotiated a deal with the officials of the Chicago & Northwestern railroad that is expected to result in a great saving to taxpayers in freight rates in connection with the work of building highways in Wisconsin under the new road law.

The arrangement is for a reduction of freight rates on carloads of stone for use by the state in the building of highways to a mark practically nominal. The rate for ten miles hereafter is to be 5 cents per ton, for twenty miles, 10 cents, and for 100 miles, 25 cents. The new rates apply only to stone used by the state in the work of building highways. It is considered probable that the other roads will make a similar concession.

The Universal Crushed Stone Company, of Ives, near Racine, Wis., has increased its capital stock from $30,000 to $130,000. It is understood that the company is planning on making various improvements to its property in Racine county and elsewhere.

PITTSBURGH QUARRY NEWS.

Pittsburgh, Pa., Feb. 16.—There is every prospect that concerns which handle road stone will have the biggest year in their history in 1912. City Road Engineer E. M. Bigelow has arranged to spend a good big first installment of Pennsylvania's $50,000,000 bond issue for road work this year. Much of this is going to be done in western Pennsylvania and an enormous amount of crushed stone, rubble stone and stone for bridges and culverts will be required. Also, Pittsburgh is going to use a large amount of stone for bridge and street work. All the stone quarries in western Pennsylvania are being fixed up this winter for a big run in the spring and it is expected that there will be business a-plenty after April 1.

The Ivor Stone Company, capital $25,000, has been organized at Lewisburg, W. Va., recently by G. G. Matthews, W. E. Nelson, C. M. Handley and others of that place. It will have a large stone mining plant in Kentucky and plans to ship lime, cement and ballast largely into the Pittsburgh district.

Booth & Flinn, Ltd., of Pittsburgh, are arranging to operate the big bluestone plant of the Pope Cement & Brick Company near Dunbar, Pa., which it recently purchased, to the full capacity this spring. Fully 500 men will be employed and shipments will be made on the New Haven & Dunbar railroad to the Pennsylvania railroad and Baltimore & Ohio points.

Bids will be taken to March 5th by Robert S. Conklin, commissioner of forestry in Pennsylvania, for the purchase and removal of 6,000 gross tons per annum from the bluestone quarry on the state forest reserve in Westmoreland county, Pennsylvania, about eight miles from Ligonier, Pa.

The Evan Jones Stone Company has been organized by Evan Jones, a well-known Pittsburgh contractor, and Daniel E. and Thomas Jones, of this city, to mine and quarry stone, sand, lime, cement and ballast. Their plant will be located near this city.

Bodeman Brothers, of McDermott, Ohio, have leased 55 acres of the Jones tract in the down-river district and will quarry stone extensively for the N. & W. railroad. Operations will begin soon.

Voters of White county, Tennessee, approved a proposition to issue bonds to the amount of $90,000 for building pikes in the county.

Fire destroyed the crusher and storage bins of the Casper Stolle Quarry & Contracting Company, of Stolle, Ill., last month. The loss is $25,000, with $5,000 insurance.

Dealing in limestone is one of the stated objects of the Brier Hill Steel Company of Youngstown, Ohio, which has been incorporated with capital stock of $15,000,000.

The Keystone Quarry Company of White Haven, Pa., has sold out to the General Crushed Stone Company of Mauch Chunk, which proposes to make improvements costing $100,000.

H. M. Maxwell, wealthy quarryman and contractor of Oakland, Cal., died suddenly the latter part of January, of heart disease, from which he had suffered for many months. He was fifty-one years of age and prominent in society on both sides of the bay. He is survived by his widow.

The North Jersey, Amiesite Company, Morristown N. J., has been incorporated with a capital stock of $100,000. The incorporators are Frederick W. Schmidt, Irving W. Wortman, Edw. A. Quayle, all of Morristown; to cover, coat and mix crushed stone or other materials with asphalt, tar and other preparations.

At the annual meeting of the stockholders of the Ideal Cement Stone Company, held at the offices of the company, 1708 Cuming street, Omaha, Neb., recently, the following officers were elected: N. J. Peterson, president and manager; P. J. Denison, vice-president; Charles Peterson, secretary; E. M. Carson, treasurer. These and J. A. Pearson were elected directors.

AUTO TRUCK EXHIBITION.

The Chicago Automobile Show came to a close a few days ago with an exhibition of auto trucks. It was noticed that quite a large part of the display was devoted to those forms of motor trucks that are adapted for the use of building supply dealers. One of the new features in this line was the power operating dumping truck, by means of which the driver can dump the load without leaving his seat.

Dealers are becoming more and more interested in the motor truck and are studying its economy. Those who have blazed the way in the use of a truck for the delivery of building materials have been keeping an accurate account, both of the expenses by the day as compared with horses, and also of the expenses per mile of distance traveled. All this information is now available for the enlightenment of those dealers who contemplate investing in vehicles of this character. It has been the experience of building supply dealers in a number of the large cities that they have been able by means of the motor truck to reach out and get new business in territory that before was not opened to them when they had team delivery. In this way the increased business has more than made up the additional cost, due to the larger investment in the truck. They sell more goods and make more money.

This is an age of rapid development, and the man who expects to keep up with the procession must have the machinery that goes with it. The horse has always been faithful and equal to most emergencies, but he is bound by the limitations of his powers to give way to the greater force of gasoline and electricity. At the Chicago show a number of sales were made of trucks to dealers, and as in every instance the buyer is thoroughly educated in the operation of the truck, it is safe to say that each one will be pleased with his purchase.

The State Construction Material Association of Louisiana met January 17th, at Alexandria. The objects of the associations are to secure and maintain reasonable and proper freight rates on construction material throughout the state of Louisiana, and to co-operate with state parochial and municipal officials in the development of public improvements and utilities. T. H. Mandell, of Lake Charles, is president and George K. Force, of Alexandria, is secretary and treasurer.

CHICAGO'S COLONY OF MATERIAL MEN

They Assemble Themselves in the Chamber of Commere Building Like Birds of a Feather, Forming an Army of Hustlers Who Build Empires.

"Birds of a feather flock together." Like the birds, men in one line of business "flock together." You find all the railroad ticket offices in one district, all the dry goods stores in another, the wholesale grocers, the shoe men and all the rest.

Why do they assemble all in one district? Give it up. But one man boldly ventured the opinion that this colonization is for the purpose of enabling each to keep his eye on the other fellow. Be that as it may, the plan is advantageous to the buying public for the reason that he knows into what district to go to find all the houses or firms in any particular line.

But the building material men have gone those in other lines one better and they not only "flock" but they try to get under one roof. The Chamber of Commerce building at Washington and La Salle streets is filled with building material men from the first to the thirteenth, or suicide, floor. It has been said that a man can go into this building and buy the material for any kind of structure from a bungalow to a skyscraper. He can also let the contract there for its construction, and when he goes away he will have nothing to do but pay the bills—not very high bills, either, considering the material and the workmanship he will get. You can buy lime, sand, cement, brick of every conceivable style, crushed stone, building stone, waterproofing enough to run Lake Michigan dry—everything except a tenant, and it may be that some of the contracting firms will even agree to get you a tenant. There is even a bank on the first floor where you can get the money to build with. So the occupants of the Chamber of Commerce cannot understand why people will crowd along the streets looking for chances to make money when inducements are offered like this.

Second Floor.

Meacham & Wright maintain a beautiful display room where the various lines of brick they handle are shown in attractive array for the inspection of intending builders. The display room gives a perfect idea how any particular style of brick will appear when laid into a wall.

Then there is F. J. Morse, who sells cement coating for Heath & Milligan. He believes in his goods and will convince anybody who talks to him a while. He reports that business is most satisfactory.

The American Rubberfelt Company maintains an office here in charge of Secretary F. W. Wadsworth. This company makes ready roofing in addition to its regular line of rubber belting.

Third Floor.

The Hydraulic Press Brick Company (W. P. Varney, president) has an attractive display room and office. The beautiful styles of brick made by this company are made up in display form in the shape of mantels, panels, etc. The company finds that the display of brick in this manner not only helps business directly but educates the people in the selection of brick for buildings.

The S. S. Kimbell Brick Company also has a fine display room, in charge of S. S. Kimbell, L. D. Binyon, H. L. Matz, W. H. Dymond and M. N. Kimbell, Jr. They look for a betterment of building conditions this month.

The F. P. Nelson & Sons Company, general contractors, have an office here. They report a number of jobs in prospect and are hopeful of the future.

The Chicago Union Lime Works, with a plant at Nineteenth and Lincoln streets, has its sales office here, in charge of J. J. Please.

The Lake Shore Sand Company has its office at the southwest corner of this floor. Secretary E. S. Davis says there is always a large demand for the company's sand and it is bound to continue.

C. H. Alsip, of the Calumet Brick Company, reports that there has been a good demand for the company's product.

The Artesian Stone & Lime Works is represented by John C. O'Connell, president; A. J. O'Connell, secretary, and C. F. O'Connell, treasurer. The quarries are at Grand avenue and the St. Paul tracks, and there are distributing stations north and south for the city trade.

Frank E. Doherty, general contractor, also has an office on this floor.

The Producers' Stone Company, also on this floor, makes a specialty of crushed stone for concrete work. F. P. Robinson, a live wire if there ever was one, is the sales manager. The company has plants all over the city for convenience and quick delivery.

The Western Stone Company is also on this floor. The office is in charge of T. A. Heineman. The company has quarries at Lemont and Joliet, dealing in crushed stone and ruble stone.

Fourth Floor.

One of the first offices you come to on this floor is that occupied by George W. De Smet, the well known cement expert and exponent of Vulcanite cement and the Dehydratine waterproofing compounds. He is constantly pushing the sale of Dehydratine and reports most satisfactory results.

The Carey Brick Company is also here. They have a plant at Galewood and there make common and sewer brick. Thomas Carey is manager and William A. Sullivan is associated with him.

Right around the elevator are the offices of the Antakwa Company, represented by George S. Welch. They are manufacturers and specialists in damp resisting paints, metal protection and Regal flat finishes.

Fifth Floor.

W. H. McCarthy, dealer in fire brick and fire clay, is also on this floor. He represents the Reese Hammond Fire Brick Company, the Oak Hill Fire Brick & Coal Company and the Simpson Fire Brick Company.

In the adjoining office is Edward Middleton, a well known plaster contractor, and Jensen & Jensen, who are famous for their cement walks.

Then you come to the office of the Paine Lumber Company, makers of Korelock veneered doors, with a plant at Oshkosh, Wis. F. A. Johnson is the local manager.

The Midland Terra Cotta Company has offices at the north end of the building. They make architectural terra cotta and have an extensive plant at Sixteenth street and Fifty-fourth avenue. Wm. G. Krieg is president, Alfred Brunkhorst vice-president and Walter S. Primley is treasurer.

The Edward Moore Roofing Company is also found here. This company makes a specialty of felt, composition and gravel roofing.

The Chicago Fire Brick Company is represented by President W. J. Gilbert and Secretary D. D. Davis. They have plants at Brook, Ind., Oak Hill, O., and Mecca, Ind.

Sixth Floor.

A. C. Warren, manager of Hoeffer & Co., is one of the most enthusiastic concrete men in captivity. His company is one of the big ones in reinforced concrete construction and in railroad masonry.

W. McMillan & Son are also here. They sell Bedford, Ind., limestone.

Nearly the entire western half of this floor is occupied by the Wisconsin Lime & Cement Company. The company sells nearly everything worth having in the building material line—brick, cement, plaster, lime and all the rest. With yards every square mile or so about the city they make prompt deliveries everywhere. Joseph Hock is president, Edward K. Cormack vice-president, Adolph Loeffler treasurer and Charles Woodward secretary and attorney.

Seventh Floor.

E. H. Jones, dealer in building materials, is to be found here. He handles all kinds of building materials and reports trade as satisfactory.

The Simpson Construction Company, represented by President R. Hansen, is also on this floor. This company has done some very creditable work.

Then you come to the Garden City Sand Company and its famous Stonekote. This company compounds some of the most beautiful cement finishes to be found in the country. Just now they are experimenting to add to their list of colors.

Eighth Floor.

The American Granite Company is represented by Otto Rathman, president, John I. Beggs, vice-president, and Lewis Rathman, secretary. This company makes a specialty of crushed granite. The quarries are at Lohrville and Granite Heights, Wis.

Michael Ready and George Callaghan, composing the firm of the Ready & Callaghan Coal Company, are also dealers in building materials.

The American Clay Machinery Company, with R. C. Penfield, president, has extensive offices here and is doing a great work for the clay industry. The company reports business as satisfactory and the clay interests are showing a constant and healthy growth. The American Equipment Company, which handles the Penfield Setting System, also has its headquarters here. Then in the next office is the headquarters of the coming Clay Products Show. Mr. Hopley is busy just now preparing for the exhibition.

John W. Farley & Co., contractors, are also here. They are handling a number of big jobs and report conditions as better than a few months ago.

The Citizens' Construction Company, with T. E. Ryan as president and J. H. Ryan as vice-president, is busy just now with a number of large contracts. They do a general contracting business.

Ninth Floor.

The Illinois Brick Company has offices here that occupy the greater part of the southern side of the building. The company ships its product to all parts of the state and reports business as greatly improved. William Schlake is president, C. B. Ver Nooy is vice-president and treasurer and E. C. Potter secretary.

The American Sand & Gravel Company is a large purveyor to the concrete industry. The company has pits and plants at many points north, south and west. N. C. Fisher is president, C. B. Shefler is vice-president and Parker M. Lewis is secretary and treasurer.

Tenth Floor.

Here you come to the Chas. A. Moses Construction Company. This firm does a general contracting business in the city.

E. A. Allen, near by, sells lumber of all grades and reports business as being far better than it was a few weeks ago. The Moore Maguire Roofing Company is also here.

Eleventh Floor.

At the south end of the building you find the McCormick Waterproof Portland Cement Company's Chicago office. William H. K. Bennewitz, the sales manager, holds forth here, and he is kept busy explaining the effectiveness and economy of the product.

The Alonzo Curtis Brick Company is near by. They have plants at Grant Park and Manteno, Ill., and make common brick. V. S. Curtis is the president. The output last year was 125,000,000.

J. D. Duffy has the next office. He is a dealer in builders' supplies.

Then there is the Masons' Specialty Company, dealing in all kinds of material for masonry. W. E. Bee is president, R. H. Green is vice-president and W. J. Gilbert is secretary.

Twelfth Floor.

The Thomas Moulding Company has a beautiful brick display room here. All the fashionable faces are here to be seen in attractive array. They represent the Tiffany Enameled Brick Company and the Southern Fire Brick & Clay Company.

Bonner & Marshall also have an attractive brick display room, and find it of great service in helping along sales.

Thirteenth Floor.

The Chicago & Oak Park Supply Company has a branch here up near the clouds. The main office is at Forest Park. M. J. and A. C. O'Laughlin are associated in the business.

The N. A. Williams Company is near by. They manufacture flue linings, cement chimney tops and the famous Akron sewer pipe. The company is represented in all the principal cities. H. B. Manton is president, W. A. Humphreys is vice-president and general manager, M. D. Williams is vice-president, and John J. Starr is secretary and treasurer. These gentlemen together with F. W. Butler form the board of directors.

CEMENT

Association of American Portland Cement Manufacturers

Meets Semi-Annually.

OFFICERS

Edward M. Hagar ..... President
W. S. Mallory ..... Vice-President
John B. Lober ..... Treasurer
Percy H. Wilson ..... Secretary

R. W. Kelley,
T. H. Dumary,
John B. Lober,
Whitney Newton,
W. H. Harding,
Geo. E. Nicholson,
A. H. Craney, Jr., ... Executive Committee
John R. Morron,
Chas. H. Zehnder,
Bethune Duffield,
W. S. Mallory,
Edward M. Hagar,
R. W. Lesley,
Frank E. Tyler,
Conrad Miller,

AMALGAMATION OF BRITISH CEMENT COMPANIES.

(From Consul General John L. Griffiths, London.)

A project has been formed to amalgamate a number of British cement works as the British Portland Cement Manufacturers (Ltd.). It will have an issued capital of $17,032,000, and there will be "no public issue of stocks or shares, and no prospectuses will be circulated."

It is stated that the new company, the formation of which is practically assured, will control an annual output of about 1,500,000 long tons of cement. The company, in addition to purchasing the stock of certain local companies, will have a working agreement with the Associated Cement Co., and the combined capital of this company and of the British Portland Cement Manufacturers (Ltd.) will be about $58,398,000. It is claimed that the two companies will control five-sixths of the cement production in Great Britain.

DISTRIBUTING CHANGE.

The following information has come to our desk:

"The Thorne Cement Company, Buffalo, N. Y., will on February 1, 1912, discontinue the distribution and sale of Lehigh Portland Cement in the northern and western counties of the state of New York. We take this opportunity to thank our many friends for their patronage during the past and bespeak a continuance of similar favors to the Lehigh Portland Cement Company, which will hereafter market its product direct to the trade. Outstanding accounts as of February 1, 1912, are to be remitted to the undersigned.

"Thorne Cement Company."

"This company will on February 1, 1912, open an office on the eighth floor of the Prudential building, rooms 118-22, now occupied by the Thorne Cement Company, for the sale and distribution of Lehigh Portland Cement. We will fill all contracts for Lehigh cement entered with and protect outstanding quotations made by the Thorne Cement Company. Mr. Alfred W. Thorne will be in charge of the office. We solicit your patronage.

"Lehigh Portland Cement Company."

The Lehigh Portland Cement Company has offices in New York, Philadelphia, Boston, New Castle, Pa., and Buffalo, all of which are in charge of Bert L. Swett, Eastern sales manager of the firm.

NEW CEMENT DIRECTORY.

We have received a copy of the 1912 edition of the Cement Directory, a handy little volume containing vital information, issued by the Cement Era of Chicago. The book bears evidence of very careful preparation, containing a complete list of all the cement companies operating, together with a list of all the principal officers of each, and the location of the plant and the capacity of the plant, in each case. The publishers are to be congratulated on the completeness of the work and it should stand as an authority on the list of producers.

The plant of the Crescent Portland Cement Company, at Wampum, Pa., was damaged $30,000 by a fire in January. Repairs are being made so that the company can operate in full in the spring.

SOMETHING FINE.

The fineness of cement is a much-mooted question. One manufacturer claims that the fineness of his cement has reached what might be called the indivisibility of matter. Going further and explaining this, it is stated that as has long been known molecules consist of two atoms, and a further division has lately been discovered which finds that each atom consists of 860 ergs. Now these ergs are of such size that if a lady's thimble was filled with them and then a small hole placed in the bottom so that they would leak out one at a time, it would take just five quintillion of years to empty the thimble. And they claim their cement is ground still finer than that.

The Detroit Cast Block Stone Company, of Detroit, Mich., has been incorporated, with a capital stock of $18,000.

CEMENT IN 1911.

Preliminary Estimate of Portland Cement Production in the Year Just Closed.

Complete statistics for the year 1911 were received by the United States Geological Survey during the month of January from about 70 per cent of the Portland cement manufacturers in the United States. Based on these returns an estimate has been made by Ernest F. Burchard of the U. S. Geological Survey of the entire output for the year. It is believed that this estimate is within 2 per cent of the exact quantity of Portland cement manufactured in 1911. There was apparently a slight increase in the production of 1911 over that of 1910, amounting to about 1,300,000 barrels, approximately 77,877,236 barrels having been made in 1911 as compared with 76,549,951 barrels in 1910. This represents an increase of only 1.7 per cent as compared with the increase of 17.7 per cent that occurred in 1910 over the previous year. The figures for 1910 and 1911 are so close that when complete returns are received possibly a slight decrease in production may be shown. The average factory price per barrel, not including packages, was 86.7 cents in 1911 as compared with 89.1 cents in 1910, a decrease of 2.4 cents per barrel, or 2.68 per cent. In place of the five geographic districts formerly considered by the Survey, the United States has been divided into 11 subdivisions based on the grouping of plants in direct relation to the trade territory covered by each group. This grouping is also more logical when the raw materials are considered. For instance, the plants in northeastern Indiana using marl are grouped with the Michigan plants, many of which use marl, and the plants in southern Indiana and northern Kentucky, all of which are near the Ohio River, and all of which use hard limestone, are grouped together. Plants near Chicago, whether in Illinois or Indiana, are logically grouped together because of their nearly equal freight rates. The Southeastern States, in which plants use mostly Appalachian limestone, are grouped together, and Texas has been transferred to the group of Great Plains States, with which it more logically belongs. Plants between the Missouri River and the Mississippi River in Missouri and Iowa are grouped together, and the plants in the Rocky Mountain States are considered in a separate group.

An attempt has been made to estimate the shipments of cement by districts for 1910 and 1911, but with regard to such statistics there are fewer data and the figures are not regarded as quite so accurate as those of production. Nineteen hundred and eleven was the first year in which inquiries have been made by the Survey with regard to stocks on hand. According to returns received there were decreases in production in the following districts: Lehigh, Kentucky and southern Indiana and in the Great Plains and Mountain States. The increases recorded were in New York, Ohio and western Pennsylvania, Michigan and northeastern Indiana, Illinois and northwestern Indiana, the Southeastern States, Iowa and Missouri, and in the Pacific Coast States. Slightly better prices were realized in the Lehigh District, New York, and on the Pacific Coast, but in Michigan and northeastern Indiana, Illinois and northwestern Indiana, and in the Great Plains and Mountain States the average price was lower than in 1910, but in western Pennsylvania and Ohio, southern Indiana and Kentucky, the Southeastern States, and in Iowa and Missouri the price remained about the same.

For the sake of ready reference these statistics are arranged in tabular form.

The apparent increase in average price per barrel in the Lehigh district and New York is due to the fact that many producers' reports took no account of the increase of 8 cents per barrel allowed consumers for return of sacks in 1911. Considering this difference in allowance for bags, the average price for the Lehigh and New York districts shows an actual decrease instead of a gain.

Statistics of Portland Cement Industry, 1910 and 1911.

States	Active Plants '10-'11		Production and Shipments. 1910	1911	Change per cent	Average factory price per barrel. 1910	1911
Eastern Pennsylvania and New Jersey. (Lehigh District)	24:	23:Prod.:	26,315,359:	25,924,516:	− 1.5 :	$ .729:	$ .763:
	--:	--:Ship.:	27,033,313:	25,634,671:	− 5.2 :	---:	---:
New York	8:	7:Prod.:	3,296,350:	3,314,217:	+ .5 :	.808:	.841:
	--:	--:Ship.:	3,059,539:	3,058,463:	− .04:	---:	---:
Ohio and Western Pennsylvania	9:	9:Prod.:	6,072,987:	6,675,249:	+ 9.9 :	.775:	.770:
	--:	--:Ship.:	5,615,662:	6,553,895:	+ 16.7 :	---:	---:
Michigan and northeastern Indiana	14:	12:Prod.:	4,524,591:	4,570,033:	+ 1.0 :	.870:	.849:
	--:	--:Ship.:	4,508,738:	4,436,462:	− 1.6 :	---:	---:
Kentucky and southern Indiana	3:	3:Prod.:	2,824,832:	2,818,820:	− .2 :	.799:	.802:
	--:	--:Ship.:	3,016,413:	2,738,630:	− 9.2 :	---:	---:
Illinois and northwestern Indiana	6:	6:Prod.:	8,376,450:	8,617,341:	+ 2.9 :	.940:	.836:
	--:	--:Ship.:	8,151,294:	8,537,442:	+ 4.7 :	---:	---:
Southeastern States, (Maryland, Virginia, West Virginia, Tennessee, Georgia, and Alabama.)	8:	10:Prod.:	3,071,009:	4,005,001:	+ 30.4 :	.793:	.81 :
	--:	--:Ship.:	2,800,563:	3,723,183:	+ 32.9 :	---:	--- :
Iowa and Missouri	6:	7:Prod.:	5,722,971:	6,060,261:	+ 5.9 :	.916:	.911:
	--:	--:Ship.:	5,261,160:	6,008,503:	+ 14.2 :	---:	---:
Great Plains States, (Kansas, Oklahoma and central Texas), Mountain States, (Colorado, Utah, Montana, Arizona, and western Texas.	16:	16:Prod.:	7,723,253:	6,904,468:	− 10.6 :	.996:	.871:
	--:	--:Ship.:	7,087,296:	6,743,060:	− 4.8 :	---:	---:
	8:	7:Prod.:	2,236,561:	2,117,930:	− 5.3 :	1.288:	1.156:
	--:	--:Ship.:	2,065,393:	1,974,476:	− 4.4 :	---:	---:
Pacific Coast (California and Washington)	9:	11:Prod.:	6,385,588:	6,869,400:	+ 7.6 :	1.354:	1.407:
	--:	--:Ship.:	5,941,340:	6,523,106:	+ 9.8 :	---:	---:
Totals	111:	111:Prod.:	76,549,951:	77,877,236:	+ 1.7 :	.891:	.867:
	---	---:Ship.:	74,540,711:	75,931,891:	+ 1.9 :	---:	---:

VITAL QUESTION OF CEMENT INDUSTRY

BY DR. OTTO SCHOTT

(Continued from December)

The fact should be borne in mind that there are, however, treaties between the single associations by which the quantity to be sold by each association, as well as also the price at which in the single districts of the German Empire cement may be sold, is precisely determined, while on the other hand a certain territory is fixed for each syndicate in which it has to effect the sale of its cement.

The most firmly constructed cartell is the South German Cement Association, which was prolonged last year until the year 1925. A description of its organization, its tendencies and of the manner in which its business is conducted demonstrates clearly the difference between an American trust and a German association. In the South German Association there are thirty cement concerns united to a society with limited liability. This society has for its purpose to sell the Portland cement produced in the factories of the members within the territory of the association in as large quantities as possible and at as good prices as possible, which is done from one single selling place. This arrangement has for its purpose:

1—Avoidance of an unhealthy competition among the factories;

2—Concentration of the powers in the competition struggle against other factories and cartells.

Buy Old Factories.

This combination has furthermore the tendency of buying up old factories to put them out of operation and to prevent the founding and building of new cement factories by the purchase of land or by paying sums of compromise.

Each of these thirty companies united in the combination represents an individual for itself with its own administration or home rule, its own shares and stockholders, that have retained completely their independence with the exception that they do not any more sell the cement of their manufacture themselves, but have transferred the sale of their product to a common central establishment. The typical feature of this arrangement therefore is: An especial selling place which has been founded by the cement factories themselves, conducts for its own account independently the business of selling cement. It has to purchase the cement from the cement factories of the association and has to sell it to the consumers or dealers. The cement factories themselves can no more sell direct.

The quantity of cement which the selling establishment has to purchase from each of the factories forming the association is determined at the beginning of the year and it depends:

1—On the territory that has been assigned to the respective factory when it was received into the association, and

2—On the consumption of cement.

Each of the factories was at the time of the formation of the association estimated minutely as to its capacity of manufacture and now participates in the increase of consumption in proportion to the quota assigned to it at the time of foundation.

It is the duty of the cement selling establishment to inform at the beginning of the year all its factories as to what quantity of cement the selling place will purchase during the current year from each single factory of the association. These quantities naturally entirely depend on the consumption, which, however, may be estimated approximately in advance. In this manner the sale and the production are regulated and each of the cement factories received in the association knows already at the commencement of the year, how far it has to limit its production. In the past year the factories in question were occupied with 79 per cent of the quota assigned to them.

Pay Minimum Price.

For the cement delivered the selling establishment pays to the single factory every month a minimum price, which has been determined at the beginning of the year, and the factory is bound not to sell below that minimum price. The selling establishment, however, sells invariably at a far higher price by making above all the best possible use of the freight rates, and at the end of the year it then pays a so-called over-price per barrel of the cement that has been supplied to it.

Each factory has to furnish according to the regulation of the selling establishment a cement that fulfills the conditions of the German standards. The selling place acquires the ownership of the cement purchased by it at the moment it leaves the factory; but the factories are responsible to the selling place in the case of deficiency in quality.

A very interesting regulation in this arrangement is that the association will be of itself dissolved in case the selling place is unable to dispose of at least 55 per cent of the capacity of the joint factories or when the price of the cement sinks below 85 cents a barrel f. o. b. factory.

The organization of the association has been so arranged that a directory stands over the central selling place, said directory being in turn responsible to a general meeting, in which each of the participating factories has a seat and a vote or votes. The number of votes possessed by each single factory depends upon the size or on the number of the quotas of the factory.

It may now be asked, in what the advantage of such an association consists? This advantage does by no means consist in the utilization by the association of its power by fixing as high prices as possible for the cement. On the contrary a quite normal price, which amounts to $1.00 f. o. b. factory, is made the basis of the selling price of the selling central. The advantages, however, are of an entirely different kind:

1. The selling central brings about a compensation or equalization between sale and production already at the beginning of the year by communicating to each of the factories in how far it will have to restrict its production.

2. The expenses for the sale are considerably lower than they would be if each factory were to sell its own cement, owing to the simplified administration.

3. The central selling place produces great savings in freights, by which all the participant factories are benefited, by assigning all orders to the nearest of the factories.

4. All factories being united in the syndicate, no unreasonable under-bidding takes place, whereby a certain normal price can continually be maintained.

5. The association is in a position to jointly purchase and place out of operation old factories far more easily than it would otherwise be possible, the same as to prevent the starting of new factories and the fighting of outsiders.

6. The syndicate is able, as the representative of a whole group of cement factories, to conclude treaties with the cement manufacturers of other countries and with other cement associations for the purpose of mutual protection.

I may be permitted to make a few remarks relative to the last two points.

The South German Syndicate has managed within the last ten years to prevent the erection or starting of about twenty new cement factories, sacrificing for that purpose several million marks, which amount, however, has made itself paid long ago. Let me adduce but one example. To a city in whose territory there is a good quality of limestone, the association pays annual dues whereby the city is bound over never to give its consent to the erection of a cement factory. In many cases simply the connection between the railroad and the limestone quarries has been cut by the purchase of the intervening land. In some cases the owner of the limestone quarries or limestone property is paid an annual sum whereby he is bound over not to sell his land for the manufacture of cement during the next fifty years, etc., etc.

Point 6 is equally important.

Treaties with Other Associations.

The South German Cement Syndicate has treaties with contiguous cement associations in Germany, which are based on mutuality. The South German people do not sell anything to the Middle and North of Germany and in return for this, vice versa, the cement factories in these territories sell nothing to the Southern portion of the Empire. These treaties, however, not only are in existence between the various cement associations of Germany, but also between the different countries. The South German Cement Association has treaties with Switzerland, Austria and Belgium, by which the sale of cement is governed or regulated precisely.

But the most wonderful thing is that there is even a Dutch or Netherlandish cement association, although there is not even a single cement factory in Holland. As, however, four cement associations, namely the English, the Belgian, the Westphalian and the South German cement association, import cement into Holland and in former times ran down the prices in competition with one another, these four associations have combined into the Holland Cement Association, having a joint selling establishment at Antwerp. Thereby it is also avoided that in Holland the prices, as was the case frequently before, sink below a normal level. It may be mentioned here parenthetically that the international works, belonging to the Holland syndicate, have come to an agreement not only in regard to the price and quantity, but also in regard to the quality of the cement in so far as the cement exported to Holland must conform to the standards necessary in Germany. Thus also in this respect a united action has been brought about, although Belgium and England possess wholly different regulations for their inland consumption.

It elucidates from the foregoing that the German cement associations have displayed a successful activity in behalf of the cement factories without having in any way misused their power in the detriment of the consumers or purchasers of cement. But they have succeeded in removing the unhealthy competition among the single cement companies and to assist them in attaining an assured sale of their product at normal prices without in the least impairing the interests of the cement consumers.

Harmony with Dealers.

And in such a manner the contractors and dealers in the South of Germany have—marvelous as it may appear—joined together to a society vowing fidelity to the associations and living up to the principle not to purchase any cement that has been imported or from outsiders. Naturally the syndicate in return is in a position to accord to the dealers advantages for their having bound themselves over to purchase exclusively from syndicates.

Some of the associations have procured for their members further commercial advantages, for instance by erecting a common factory for the manufacture and cleaning of sacks; the Rhinelandish association has even gone so far as to establish for its members a factory for the manufacture of export barrels.

The Rhinish-Westphalian cement association has thirty-five smaller cement works belonging to it, which together produced in 1910 nine million barrels of cement, that is likewise sold from a central selling station. Only the cement factories situated in the vicinity of Berlin had not until some time back allied themselves to an association. Three months ago, however, these also combined and erected a joint selling station for all factories in Berlin and its vicinity. As a consequence the price of cement rose immediately by 25 cents a barrel.

As has been explained above, the associations have considered it their task to eliminate the unwholesome competition between the single cement factories. This alone, however, would not have been quite sufficient for the cement industry in Germany; for it was impossible to entirely prevent the erection or establishment of new cement factories and also an overproduction made itself more and more felt. Consequently new territories for the sale of the production had to be looked for and the export of cement had to be carried on and fostered more energetically. Furthermore the German cement industry had to strive for a substitution for the decrease in exportation to the United States of America, which formerly had represented a weighty factor in the German export trade.

The German cement export, as may be seen from the accompanying diagram, had in 1903 reached its highest level with 4,350,000 barrels, but had subsequently decreased to 3,000,000 barrels as a consequence of the rapid increase of the American cement industry, such decrease having taken place until the year 1908. But it has taken no more than the space of two years to find another territory for the German exportation as a substitution for the decrease of the export to the United States of America. In 1910 the German cement export amounted to 4,250,000 barrels, that is to say somewhat more than 14 per cent of the entire production. Contrasting with this large proportion of export, the American export of cement in 1910 amounted to but 3.4 per cent, and annexed, America has in its cement exportation lagged far behind all other countries. With an

(To be continued)

WEST COAST CEMENT NEWS.

San Francisco, Cal. Feb. 12.—The demand for cement is now about at a minimum, though negotiations are pending on a number of large contracts, through which it is believed that most of this year's output of California plants will be disposed of. While comparatively little new equipment is being installed, the plants are being thoroughly overhauled, in preparation for a busy year.

The open winter in California has been of some benefit to the cement market, but the movement is still rather quiet, as few large contracts have been let, and no important consuming projects are likely to be started before spring. Manufacturers are limiting their operations for the present, and considerable overhauling and improvement work is being done at all the plants. There is still quite a bit of last year's output on hand, and the effort of manufacturers to find an outlet for this year's production has caused another slight break in prices, which are lower than for many months past. The outlook for the restoration of former values is very uncertain.

The old trouble between the state and the cement interests has again broken out, the harbor commissioners having twice received bids for a three years' supply of cement and rejected all bids both times. On the first occasion all the bids were the same, but on the second call one firm cut the price 1 cent per barrel, to $1.64, which was considered too high.

The city of Los Angeles now has a white elephant on its hands in the shape of a cement plant. This plant was installed 18 miles from Mojave, at an expense of $800,000, to supply cement for the aqueduct work, but its product is no longer required. Tentative efforts have been made to dispose of the outfit, but nobody seems to take any interest in it.

The plant of the Standard Portland Cement Company at Napa Junction, Cal., was closed a few weeks ago and is being overhauled.

The Portland Cement Company, of Portland, Ore., expects to complete the first unit of its plant at Oswego, Ore., during the spring, and it is reported that work will be started shortly on the second section.

The Olympic Portland Cement Company, which is working on a new plant near Bellingham, Wash., has plans about ready for its crushing outfit.

The Mound House Plaster Company, which has been working for several months on plants at Mound House, Nev., and Emeryville, Cal., will soon take a leading position in the plaster industry of the Coast. The company has established offices at 695 Monadnock building, this city, and is perfecting arrangements for marketing the products. The large plant at Mound House, Nev., which will manufacture gypsum and hard wall plaster, is ready to start up on a large scale, and the plant at Emeryville, Cal., which will produce California Colonial wall boards, will start its machinery Feb. 15, and will begin turning out boards about March 1. A large amount of imported machinery has been installed at this place, and the equipment will be doubled in the near future. Ed Daugherty, superintendent of the plant, has been in the vicinity of Marysville, Cal., contracting for cottonwood logs, which will be used for fiber for the plaster, and has secured an ample supply for present requirements. The marketing arrangements are not entirely complete, but large inquiries have been received from all parts of the Coast, as well as the Islands and South America, and a large market for the products is assured. J. W. Vogelsong is general manager.

The Northwest Plaster and Lime Association has been organized at Portland, Ore.

The California Gypsum Company, which has a 740-acre deposit in the east end of Kern county, California, is making good progress with development work. A 70-ton per day mill has been erected near the Santa Fe railroad, about 2½ miles from the deposit, and is now in operation, a traction engine being used to haul the material. The company has its office at Los Angeles.

Bids are now being received by the State Harbor Commissioners for the next two year's supply of cement for San Francisco harbor improvements, the amount to be not less than 150,000 barrels. The Harbor Commissioners are having plans drawn for several concrete docks and additions to the Ferry buildings, on which work will be started early in the year.

The Santa Cruz Portland Cement Company has received its franchise from the city of Santa Cruz, Cal., for the construction of its projected concrete wharf, which will be used mainly in the handling of cement shipments from the plant to other parts of the Coast.

The Cowell Portland Cement Company is running its plant on a small scale at present, but is taking advantage of the dull season to put the equipment into first-class condition, and anticipates the best year it has ever had.

The properties of the San Juan Portland Cement Company, in San Benito county, Cal., were sold early in December for the creditors, being bid in by B. M. Aikens, representing prominent capitalists of San Francisco. Now that the legal difficulties in which this project has been involved are settled, it is expected that the erection of the plant will proceed with little delay, as most of the required equipment is on the ground.

SOUTHERN CEMENT NEWS.

Birmingham, Ala., Feb. 18.—The Alabama Portland Cement Co., which is located at Spocari, two miles east of Demopolis, Ala., has been purchased by a syndicate of capitalists of El Paso Texas, headed by T. M. Wingo, president of the American National Bank, of El Paso, and A. R. Smith, formerly of that city, who is now president of the Business Men's League of Demopolis.

The consideration was $100,000 and E. P. Benjamin, trustee for the English syndicate which controlled it to the time operations were suspended several years ago, has confirmed the news of the sale of the plant.

Mr. Smith, in an interview with the correspondent of ROCK PRODUCTS, authorized the statement that within the next ninety days the plant would be in operation and some 400 men would be given employment.

The present capacity of the plant, about 500 barrels daily, is to be quadrupled, equipment having been purchased to give the plant, after being overhauled and improved, a daily capacity of 2,000 barrels.

The property purchased by the El Paso people includes a tract of 400 acres of very fine limestone, pronounced to be excellent for making cement. Coal will be floated down the Warrior river from the Tuscaloosa coal fields and improved transportation facilities will be arranged through the Business Men's League, of Demopolis, which has been instrumental in re-organizing the enterprise.

This plant in operation will give Alabama five big cement plants, as the Lehigh Portland Cement Company has made known its intention of locating a plant adjacent to Birmingham in the immediate future.

The list will include the Standard Portland Cement Co., of Leeds, Ala., the Atlantic & Gulf Portland Cement Co., of Rogland, Ala., the Panama Portland Cement Co., of Mobile, Ala., the Alabama and the Lehigh companies, with one other cement company, known as the Southern Cement Company, operating in a small way in Birmingham, manufacturing cement from slag.

The Panama Portland Cement Co., mentioned above, is domiciled at Mobile, Ala., and it is understood that a small cement plant there, recently purchased by the Panama company, will be enlarged on a vast scale with a view to manufacturing perfect white portland. The Panama company is capitalized at $2,000,000, under the laws of Delaware, and its main offices are located at Buffalo, N. Y.

Plans for the formation of the East Tennessee Portland Cement Co., in which H. R. Blauvelt and W. H. Gass, both of Knoxville, Tenn., are concerned, are being rapidly perfected and details of the proposed company have been made public. It is intended to organize a company with $500,000 capital and a plant with a daily capacity of 1,500 barrels, of steel and concrete construction, will be erected. Both Blauvelt and Gass are men of large capital and the positive statements made by them in the matter are taken to indicate the success of the plans as detailed. These gentlemen, with such others as are already interested, own a large tract of land adjacent to close railway connection with Knoxville on which the raw materials for the manufacture of cement at low cost, including fuel, exist in large deposits.

The Bald Mountain Portland Cement Co., of Aragon, Ga., which was organized a few months ago with $1,000,000 capital, is pushing the erection of its plant at Aragan as rapidly as feasible.

J. C. Bass, president of the Piedmont Portland Cement Co., whose headquarters are at Rome, Ga., is president of the Bald Mountain Co., and C. D. Quick is the engineer in charge of the construction of the plant, also with offices at Rome.

The company's first installation will cost about $50,000, so it is stated by Mr. Quick, and the plant when completed will represent an outlay of $650,000. The first part will be completed early in 1912, including two miles of standard gauge railway.

The plans provide for a 2,000-barrel mill, electrically driven, the first installation to include crushers, mammoth crushing mill, small crushing mill for pulverizing limestone, screens and elevators, with a power-plant of about 350-horse-power, at first.

The latter will later be increased to 3,000-horse power.

The product of the plant is to be crushed rock and ground limestone for cement and fertilizer.

The company owns 316 acres of land, including large deposits of shale and a mountain of limestone 200 feet in heighth. The plan of the company is to develop the limestone quarry, supplying the market for crushed rock in Atlanta, and to also produce ground limestone for fertilizer prior to and during erection of the cement mill.

The work of enlarging the capacity of the Standard Portland Cement Company's factory and mills at Leeds, Ala., an industrial suburb of Birmingham, has already been inaugurated and within a few months it is expected the daily capacity of the re-modelled and improved plant, including new mills, will be nearly 3,000 barrels.

The Standard Portland Cement Co., which is allied with the interests of the Carolina Portland Cement Co., the headquarters of which are Charleston, S. C., is only five years old, but it has steadily developed its sales, under the management of J. I. McCants, of Birmingham, general sales manager of the company, until its initial capacity in its first year, (100,000 barrels,) has already been quintupled and now even that capacity is to be doubled.

RATES ON CEMENT.

The following order was issued by the Interstate Commerce Commission at the general session held in Washington, D. C., at their offices, February 6, 1912.

In the matter of the application of the Boston and Albany Railway and the New York, New Haven and Hartford Railroad, concerning the rates on cement.

The application of the roads asks for authority to establish rates in carloads from Hudson and Hudson Upper, N. Y., to points of destination. The application is made upon the desire of the petitioners to establish rates from Hudson and Hudson Upper, N. Y., to give a new cement plant the benefit of commodity rates. The application was granted by the Commission.

The Good Roads Bureau, of the Department of Agriculture, is now preparing a bulletin on the benefits of road improvements based on several years of study and investigation. The bulletin will probably not be out for about six weeks or two months.

The following order was issued by the Interstate Commerce Commission on February 9, 1912, at Washington, D. C., at their general session:

Application No. 5884 of the Chicago, Rock Island and Pacific Railway, etc., for relief from the provisions of the Fourth Section of the Act to Regulate Commerce. Application made January 9, 1912, asks for authority to publish the same rates on cement from Hartshorne, Okla., to various points of destination without observing the provisions of the Fourth Section. The reason given is that a new cement plant has recently started at Hartshorne and the appellants want to afford the new plant the same rates as now apply at Ada, Okla. The application was granted.

Word has just come to Washington that the Rizal Cement Co. has been incorporated at Manila with $750,000 capital, its factory to be at Binangonan, Rizal Province. This enterprise has been considered for some time and has been considerably discussed by Philippine business men with a view of saving to local trade the $600,000 annually spent abroad for cement, the larger portion of it coming from Hongkong. The company is to commence operation at once.

The Pan American Union has been advised that to encourage the cement industry of the country, a bill has been introduced in the Uruguayan Congress providing that for 15 years all Portland cement factories in that country shall be exempt from property and license taxes, and may import their machinery and materials free. The bill fixes the import duties on cement at 40 cents per 100 kilos gross weight.

Wyandotte Portland Cement Company, Wyandotte, Mich., has seen the signs of the times and has gone into the specialty of advocating the use of cement in the making of "Good Roads." As everybody knows, the good roads movement is spreading all over the country, and in the building of these roads, that is bound to come very soon, cement ought to figure as the structural material. The Wyandotte Company has issued a booklet containing pictures and descriptions of roads built with cement in various parts of Michigan, especially in the neighborhood of Detroit. One of the valuable features of this book is that in each instance it gives in detail the cost of the work and of the materials.

Concrete

National Association of Cement Users

Meets Annually.

OFFICERS

Richard L. Humphrey, Philadelphia.....President
E. D. Boyer, Catasaqua, Pa.....1st Vice-President
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E. S. Larned, Boston, Mass.....3rd Vice-President
Ira H. Woolson, New York, N. Y.....4th Vice-President
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P. S. Hudson, Louisville, Ky.—Common Building Blocks and Cement Products.
H. S. Doyle, Chicago—Exhibition.
W. H. Ham, Boston, Mass.—Insurance.
A. E. Lindau, St. Louis, Mo.—Reinforced Concrete Building By-Laws.
C. W. Boynton, Chicago—Roadway, Sidewalks and Floors.
L. C. Wason, Boston,—Treatment of Concrete Surfaces.
R. P. Miller, New York—Fire-proofing.
Robert A. Cummings, Pittsburg, Pa.—Measuring Concrete.
Peter Gillespie, Toronto, Canada—Nomenclature.
Sanford E. Thompson, Newton Highlands, Mass.—Specifications and Methods of Tests for Concrete Materials.
Logan Waller Page, Washington D. C.—Education.

CHICAGO CEMENT SHOW.

As we go to press the Chicago Cement Show is opening at the Coliseum. This show, the parent of all the cement shows, bids fair to eclipse all previous efforts in the exhibition line. President Hagar, of the Cement Products Exhibition Company, has been untiring in his efforts to make this show all that is to be desired. That he has succeeded will be seen in the coming few days. The exhibits this year are more than ever along the line of education in the uses of cement, and the general public will find much to interest and instruct.

CEMENT TILE CONVENTION.

The seventh annual convention of the Interstate Cement Tile Manufacturers' Association will be held in Chicago February 21, 22, 23 during the Cement Show. While the programme has not been completely prepared, enough has been done so that reasonable assurance can be given that this meeting of the association will be most interesting and instructive. Secretary Chas. E. Sims, of Worthington, Minn., says that the cement tile manufacturers will find material given at this convention which will help them in the management and betterment of their plant and business conditions during the coming season. He will come to the convention armed with the data and information given out at the recent meeting of the Iowa Cement Users' Convention in which he participated in the discussions, and every manufacturer of cement tile ought to be present at this meeting.

DRAIN TILE SPECIFICATIONS.

J. H. Stewart, of Waterloo, Iowa, takes exceptions to the proposed standard specifications for cement drain tile recently published. He says that in his opinion the National Association of Cement Users is not the proper body to get out a set of specifications for the cement tile manufacturers. He calls attention to the fact that such specifications should be prepared naturally by the Interstate Cement Tile Manufacturers, who are directly and vitally interested in this line of industry and know all the details that ought to enter into such specifications.

He concedes that the committee that prepared this specification evidently have had some experience with cement, but at the same time, he is satisfied from their conclusiveness, that they are not experienced tile makers. He does not say this in a spirit of fault-finding, but he thinks that in all fairness and as a matter of expediency, the work of preparation of a set of specifications for tile men should be done by the tile men themselves. He says this with all due respect to the Cement Users, and they, the Cement Users' committee itself undoubtedly prepare these specifications with no thought of encroaching upon the preserves of the tile manufacturers.

The matter ought to be straightened out at the forthcoming meetings of the two associations and if the tile men in their forthcoming convention should make overtures along that line and present a memorial to the National Association of Cement Users at Kansas City, the points that Mr. Stewart raises undoubtedly would bear fruit.

NEW YORK SHOW.

Second Exhibition Under the Auspices of the Cement Products Exhibition Company A Success.

The second New York Cement Show under the auspices of the Cement Products Exhibition Company surpassed in attendance any previous exhibition of the kind in the country's history. This may be credited to the fact that the officers of the company on this occasion were able to put into practice the lessons gained in previous show experiences, and the exhibitors likewise had learned how more effectively to arrange their displays.

No reason exists why the New York show should not continue to be an educator of the public in the uses of cement on the Atlantic Coast, and here is to its success.

The doors of Madison Square Garden were thrown open January 29th promptly at 8 o'clock, and the inrush of waiting humanity immediately began and continued in two steady streams until the mammoth hall, the largest in the city, was crowded beyond the comfortable point. That is, such a crowd on any other occasion than a cement show would have found things uncomfortable, and by sheer massing together, unpleasant. But no such thing ever happens at cement shows. Always everybody is in a good humor and willing to forgive almost anything in the good spirit that inevitably prevails.

The Garden was magnificently decorated for this occasion. It amounted to a pretty complete show of itself. Even those who are most familiar with the perfect lines and proportions of the vaulted roof and repeated ovals of the design of the vast interior could not help but admire the artistic effects of white on green in the roof with electric lights in effective clusters. The second upper and outer ovals of the design around the first balcony carried tapestry scenes of the uses of cement as exemplified in practice. One mammoth scene depicted a grand estate consisting of mansion, garages, pergolas, even fences and swimming pool, all done in cement. Another gave a gracefully arched concrete bridge over the main entrance. There were others too numerous to mention. On the main floor the booths and stalls were all decorated in a uniform design of moulded concrete in the natural color.

The exhibits were by far the best ever presented for the inspection of the public, covering as they did each and every detail of the industry which is vitally interesting every progressive American more today than any other one human activity. Aside from the unparalleled importance of the cement industry in a commercial sense, concrete made from Portland cement has a personal appeal and a distinct influence upon civilization. The first essential of the race is a safe home, and people everywhere are finding out that concrete homes are safer than any other kind. All of those elements in the construction of the safe home which during the ages have been considered unattainable are made possible by the introduction of concrete; nay, they actually can be made cheaper than any other kind in cases where that is the desideratum.

Designed primarily for educational purposes, upon the specific subject of concrete, this great cement show is effectively accomplishing that purpose in the most graceful and most popular way.

No one who hopes to keep up with these fast times of progressive commercialism can afford to miss the show at Madison Square Garden each year.

It was an interesting crowd. While scattered among the mass of people were architects, engineers and artisans of various trades, the mass of people comprised that very large class—the home builder. The dweller in the New York apartment or tenement hopes some time to own a home, every one of them. Some will realize the hope, and others, sad to say, will not, but every one hopes.

That is why the miniature houses and the architectural displays attracted such crowds. That is why so many faces were wistful.

That is why so many of the visitors probably dreamed later of concrete palaces, concrete pergolas and concrete cottages.

There were many things to interest and instruct, albeit the engineer, the architect and the technical men in general had the larger feast.

BURIED IN CONCRETE.

In cement and in concrete ordinarily there is little sentiment. The cold, gray material, hard as adamant, has little that would appeal to the heart, but here is something in the concrete line that does.

In the Pennsylvania Portland Cement Company's exhibit was the form of a boy, the exact form and likeness of a lad who was buried alive in concrete centuries ago. For after the lapse of time the elements of nature had done their work and when the block in which the boy was buried was opened only the cavity with a few bones at the bottom remained, and served as a mold to reproduce the form of the little fellow, a copy of which was seen in the show. This is the story as told by one familiar with the facts:

"In 1612 a topography of Algiers by Haido, a

CAST OF BOY WHO WAS BURIED ALIVE.

Spanish Benedictine Missionary to Algiers, contained an account of Geronimo, an Arab boy captured in infancy by the Spanish garrison of Oran, about 1535-40. When eight years old he fell into the hands of his family and lived as a Mohammedan till the age of 25, when he returned to Oran voluntarily and resumed his Christian life. In 1569 he went on a coasting raid with a party of Spaniards, but the raiders were themselves captured by a Moorish corsair, and brought to Algiers. Here the attempt was made to convert him to Mohammedanism, but he persistently refused to embrace that faith, so he was tried and condemned to die.

"His hands were tied behind his back and he was cast alive, face downwards, into a block of concrete, then being prepared for the 'Fort des Vingt Quatre Henris' then building.

"Careful note was taken of the spot by Haido, who prayed that the time might come when the Lord would pave the way for the exhumation and Christian burial of the body. In 1854, the French found it necessary to destroy the fort and the date left by Haido was found to be correct, for the designated block of concrete on being cut open disclosed the bones of Geronimo and the cavity left by his body. The bones were removed December 27th, 1853, and given Christian burial and they now rest in a massive stone sarcophagus in the cathedral. Then the plaster cast of the cavity was taken and it was this cast that was copied in the form seen in the Cement Show.

"It appears that concrete of some character has been employed in engineering and architectural operations practically from the dawn of civilization, and that the material has been utilized in building operations in the form of blocks of various dimensions for a great many centuries."

ANNETTE KELLERMAN AT THE SHOW.

"I shall have a cement swimming tank built in my bungalow at Buzzard's Bay at once," exclaimed Miss Annette Kellerman, the famous high diver, at the New York show. She was being escorted around the aisles by Victor Eubank, the press representative, and several other aquatic students.

"Yes, fireproof," she said in ecstacy. "I want a fireproof tank, one that will not burn."

Miss Kellerman was not recognizable in her street clothes by many who have seen her wonderful performances in water.

"I shall have my manager negotiate with some New York house to put in a cement tank for my use. When I am on the road it can be kept in service for tank dramas.

"What do you think of these aggregates?" she was asked by Mr. Eubank, pointing to a pile of gravel.

"Are they like allegrettis?" she asked.

Then Victor showed her the concrete coffins in which he takes so much pride. "You see," he said, "it has a lid on."

"Oh, is it just for Sundays?"

"No, it lasts forever."

She was shown one of the big mixers in operation and seemed greatly pleased. "How long does it take to roast the peanuts?" she asked. "The next time I go to Portland I must visit the factory and see the cement."

It was explained, patiently and kindly, that the mixers were not for roasting peanuts, but for mixing concrete.

"What is concrete?" she asked.

"It is a sidewalk," replied Mr. Eubank. "You see, Miss Kellerman, they take a 1-2-3 mix and that is concrete."

"Do they say 1-2-3 and go? That is what I used to say to myself before diving."

"No, they take one part cement, two parts of sand—and—three parts of aggregates, mixing them thoroughly in a dry state——"

"Oh, do they take them way out to Kansas?" she asked roguishly.

"You mistake me," Victor went on. "They mix it dry and then add the water till they get it sloppy."

"Does it get sloppy with water?"

"Oh, yes; and they then take it to the place of deposit."

"Is it so valuable they put it in the bank?"

"Sometimes. It sets in about half an hour."

"On what?"

"You do not understand. It becomes crystalized and ultimately it gets so hard that it in reality is like granite. Why, even the pyramids——"

"Every time I hear the band playing 'Suwanee River' I can hardly refrain from diving."

Miss Kellerman is a modest-appearing young woman, naturally of an athletic build, but she would not be picked out of a crowd as the greatest swimmer in the world. She was much interested in the cement bungalows and expressed her determination to have one built this season and equipped with a concrete swimming tank.

"I can have it in a tower, which will add architectural beauty," she said. "I like a steeple on a house. There can be winding stairs to the top of the tower, or steeple, and a little platform at the top to dive from. I want a large front stoop, too."

"You mean a porch?"

"Yes, something like that; a place where you are neither out doors or in the house, you know."

She remarked on the lack of souvenirs and chided Mr. Eubank about the absence of them till he appeared uncomfortable. "This cement is something to mend china with, and I thought I might get enough to mend a broken 'vahwse,'" she said.

Mr. Eubank disappeared and came back presently with a bottle of glue for the young woman.

"This will mend your crockery," he said.

And then the band played.

ATLAS EXHIBIT.

One of the main centers of attention at the New York Cement Show was the exhibition by the Atlas Portland Cement Company of a large working model of the great Gatun Dam, Locks and Spillway at the Panama Canal. Perfect in every detail, it earned the unqualified approval of the army engineers and government officials when privately shown in Washington, prior to its display at New York.

The model is ten feet by five feet, and was placed at the corner of the Atlas booth, where the two main aisles intersected, so that no one who visited the show could escape seeing it, many, in fact, were attracted by the crowds that constantly thronged around.

Numbers of vessels are about to enter or are passing through the lock; for example, an exact model of the Kaiser Wilhelm der Grosse is just entering, while the Cunard liner Caronia is at the crest of its rise in the center of the chamber. The Caronia rises and falls, with the smoke pouring from her stacks, just as the real vessel would in passing through the gigantic locks, every detail being realistically produced.

Some idea of the magnitude of the Gatun work which the model represents can be gained from the fact that the dam will be almost one and a half miles long on its crest, nearly one-half mile at its base, about 400 feet wide at the surface of Gatun Lake, which it will form, and 100 feet wide at the top.

The entire dam will contain approximately 21,000,000 cubic yards of material, and the spillway section alone about 225,000 cubic yards of concrete.

Five million barrels of Atlas Portland cement are being used exclusively in the entire Panama Canal, and the company should be congratulated on the clever way it attracted public attention to the fact at the New York Cement Show.

Clifford L. Miller & Co. had a very busy week, demonstrating to large crowds all day and evening the working of the Curry bag-tyer. James S. Slosson, the manager, was enthusiastic in his praise of the show and satisfied with the results gained.

F. H. Angell, of the pulverizer department of the Jeffrey Manufacturing Company, Columbus, Ohio, was at the show. He looked all that his name signifies.

William H. K. Bennewitz, the general sales manager, and Samuel Wells, representing the McCormick Waterproof Cement Company, the Sham-Rock brand of waterproofing that waterproofs, were at the show. monument with that mournful "too-good-to-be-true" expression now common all over the country.

William H. Preston, of the Connecticut Adamant Plaster Company, New Haven, Conn., was a visitor. His company is interested also in the Nova Scotia Gypsum Company. Mr. Preston is a genuine Connecticut Yankee, being the eighth generation of Prestons in the Nutmeg State. "Eight generations back the Prestons were Pilgrims," he said. "They fired my great, great, great, great, great, great grandfather out of church for going fishing on Sunday, and I have the same symptoms."

The laboratory exhibit of Robert W. Hunt & Company attracted more than the usual amount of attention. The chemical laboratory and its appurtenances can be depended upon most any time to draw the crowds. The machines for testing the tensile strength of cement and steel were special objects of interest. Indeed, the sporting element among the spectators asserted itself and 400 pounds to the square inch as a breaking point for the cement briquettes appeared to be a favorite topic of conversation.

The exhibit of the Morrill system of sectional molds for constructing poured concrete houses, "The House for Everyman," of Read & Morrill, Inc., New York, brought to the front one more feature of concrete engineering of recent development. The concrete city at Nanticoke, Pa., built for the D. L. & W. R. R., was prominently featured in the firm's printed matter.

W. M. Stephens, the president of the Stephens-Adamson Mfg. Company, of Aurora, Ill., and G. H. Stephens, the Eastern manager of the company, were among the distinguished visitors to the big show.

Edward G. Brick, manager of the Springfield, Mass., Contractors Supply Company, passed along, and immediately behind him was William H. Stone, of Baltimore.

E. E. Buhler, William Ficklen, L. W. Haubitzer, Edward Pearsall, C. E. Husson, Edward Simmons and William Fish explained the many advantages of the E B C O hook cub bar.

One of the most prominent visitors at the show was E. A. Cunningham, vice-president of the Keystone Portland Cement Company, Lethbridge, Alberta, Canada. He said they will shortly commence work on their 1,000-barrel plant, to be known as the Keystone brand, at Frank, Alberta.

The Ohio Post Mold Company, of Toledo, Ohio, had an interesting display of their post molds and some of the finished product. It was a practical exhibit and one worthy of the attention of every concrete man.

Samuel Cabot, Inc., of Boston, Mass., had a decidedly interesting exhibit consisting of a miniature house showing the various uses of their shingle stains, interior plaster stains and cement stains. R. E. Foster was in charge.

The feature of the Whitehall Portland Cement Company's exhibit was a monument with the following inscription: "Dedicated to the Memory of Low Prices." Most of the cement men viewed this monument with that mournful "too-good-to-be-true expression" now common all over the country.

Horace G. Kimble, of the Kent Mill Company, was out again and visited the show. Mr. Kimble had been confined to his home for three months with neuritis. He is mending rapidly and will soon be his old self again.

The Lehigh Portland Cement Company kept open house at the Prince George Hotel, which is only a few hundred feet from the entrance to Madison Square. Here Lehigh hospitality was dispensed by the boys from the eastern offices.

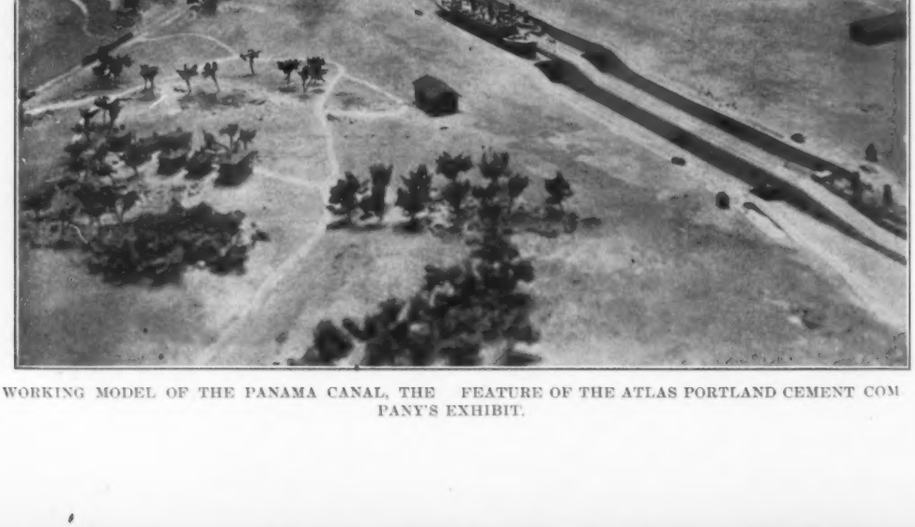
The Billings-Chapin Company, of Cleveland, O., showed sample work done with "Driwall" and "Bilchaco" coatings and their waterproofing and decorative qualities on cement or brick slabs.

OMAHA SHOW.

The Mid-West Cement Show and the convention of the Nebraska Cement Users Association were held at Omaha Feb. 6 to 10. Both the show and the convention were fully up to the expectations of the officers and much good for the industry in that section was accomplished.

One of the interesting exhibits at the show at the Auditorium was that of the Omaha Concrete Stone Company. This firm had intended to show a replica of the Joslyn castle, but because of lack of time, the plan had to be abandoned and another substituted in its stead. The substitute attracted as much attention as the original, and it was the center of an interested crowd all the time. The principal feature of this exhibit was a representation of the interior of a house. In one corner was a pretty fireplace, constructed from crystal granite brick and finished in artistic cement work. Other pieces of household furniture that could be made of cement or concrete were faithfully reproduced and the exhibition was a charming one.

The Ideal Cement Company also had an exhibition that attracted attention. Pretty ornamental columns for porches, stands, tilework and art construction brick formed this company's exhibition



WORKING MODEL OF THE PANAMA CANAL, THE FEATURE OF THE ATLAS PORTLAND CEMENT COMPANY'S EXHIBIT.

and it vied with every other attraction in the building.

Cement mixing machinery, stone crushers, brick molds and other machinery of interesting nature formed a large feature of the show and these exhibits brought as many visitors as the cement attraction.

Convention Opens.

The seventh annual meeting of the Nebraska Cement Users' Association opened at the Hotel Rome with over 100 delegates in attendance. G. E. Haverstick, president of the Commercial Club, welcomed the visitors to Omaha and offered them the "keys" to the city. President H. C. McCord of the association responded, and after thanking the Commercial Club for its hospitality, told of the possibilities of concrete and cement. Charles E. Sims of Worthington, Minn., talked upon "Cement Drain Tile," and he said that cement has proven to be better for this purpose than metal for the reason that cement does not rust or wear as soon as iron. He was followed by L. E. Porter of York, who read an interesting paper, the subject of which was the "Requisites of Good Concrete." This paper was almost entirely technical, as were the others that followed, but it proved to be highly interesting, even to the laymen who happened to be attracted out of curiosity.

Harry Moole of Omaha spoke upon reinforced concrete. Mr. Moole told of the various uses of concrete and said that the scope of the use of this material is constantly widening. The afternoon was devoted to inspection of the Cement Show by the delegates.

The program in full was as follows:

Wednesday Morning, 9:30 o'Clock.

Address of welcome, G. E. Haverstick, president Omaha Commercial Club.
Response.
Business session.
"Cement Drain Tile," Charles E. Sims, manager Concrete Tile Company, Worthington, Minn.
"Requisites of Good Concrete," L. E. Porter, York, Neb.
"Reinforced Concrete," Harry W. Moole, of the Harry W. Moole Engineering Company, Omaha, Neb.
Appointment of committees.

Thursday Morning, 9:30 o'Clock.

"Cement Silo Construction" (illustrated), M. L. King, experimentalist in agricultural engineering, Ames, Ia.
Discussion.
"The Future of Cement Paving," F. P. Wilson, City Engineer, Mason City, Ia.
"Elements of Successful Manufacture of Concrete," J. A. Evarts, superintendent of the ornamental department of the Omaha Concrete Company.

Friday Morning, 9:30 o'Clock.

"Reinforced Concrete Construction" (illustrated), C. A. P. Turner, M. A. M. Soc. C. E., Minneapolis, Minn.
"Sand and Gravel Resources of Nebraska," Prof. George E. Comdra, University of Nebraska.
"What Grand Island is Doing to Boost Concrete," W. F. Roney, Grand Island, Neb.
"The Future of Our Organization," I. E. Watenpaugh, Western, Neb.
Business session: Report of committees; election of officers.
Adjournment.

The concrete silo will be introduced for the first time in West Texas in the early spring by C. H. Powell, cashier of the First National Bank, and T. N. Robins, of San Angelo, Tex. Each of these men is preparing to build silos on farms near San Angelo, and is getting government plans for the structures. The nearest silo to San Angelo is located on the Fred Harvey dairy farm at Temple.

The Stites Steel Bridge and Concrete Company, of Chicago, Ill., has been incorporated with a capital stock of $25,000 to do general contracting and construction business. The incorporators are John W. Worthington, Byron C. Thorpe, Louis W. Frank.

Early in the spring the Beardstown Concrete Construction Company, of Beardstown, Ill., will begin the erection of a new plant to be operated in connection with their other business. The new plant is to be exclusively for the manufacture of concrete drain tile and in addition the company will enlarge the concrete building block plant to increase the capacity to more than five times the present output.

CEMENT USERS.

National Association to Hold the Greatest Meeting in Its History at Kansas City.

The forthcoming eighth annual meeting of the National Association of Cement Users is on a broader scope than any meeting previously held. To begin with it has an international character on account of the presence of men from other nations who will speak on subjects of interest to cement men the world over. The headquarters will be at the Baltimore Hotel in Kansas City, and as the convention will be held during the great cement show there this fact gives added value to a journey to the southwestern metropolis at that time. President Humphrey has spared neither time, energy nor expense in trying to make this convention the greatest ever held in the history of cement, and a study of the program of forty papers will show how well he has succeeded.

The success of the banquet in New York last year was such as to indicate the great desirability of having a similar one at Kansas City. This has been arranged for Friday evening, and the speakers will be men of national reputation, and the

RICHARD L. HUMPHREY, PRESIDENT NATIONAL ASSOCIATION OF CEMENT USERS.

occasion will undoubtedly be as enjoyable as the first.

Many of the State Highway Associations, and those interested in good roads, are arranging to hold joint sessions, at which "Concrete Roads," "Highway Bridges" and "Drainage" will be subjects for consideration.

It is no exaggeration to say that the number and character of the papers and reports will exceed the high-water mark of last year. From present indications the attendance will also far exceed that at the New York convention.

Papers of vital interest to designing engineers will come up for consideration, and a number of important specifications will be adopted. No one should fail to attend this convention if it is possible to do so.

Tentative Program.

Monday, March 11.

10:30 a. m.
Meeting of the Executive Board. Hotel Baltimore
2:00 p. m.
Meeting of Sectional Committees on:
Building Blocks and Cement Products.
Exhibition.
Fireproofing.
Insurance.
Measuring Concrete.
Nomenclature.
Reinforced Concrete and Building Laws.
Roadways, Sidewalks, and Floors.
Specifications and Methods of Tests for Concrete Materials.
Treatment of Concrete Surfaces.
Education.
8:00 p. m.
Formal opening of the Convention. Hotel Baltimore.
Address of Welcome to Kansas City.
Response by the President, Richard L. Humphrey, Consulting Engineer, Philadelphia, Pa.
Address.
Address.
Business Session.
Reinforced Concrete Water Purification Works.
Dr. Walter M. Cross, City Chemist, Kansas City, Mo.

Tuesday, March 12.

9:00 a. m.
Meeting of the Sections on Measuring Concrete, Nomenclature, and Specifications and Methods of Tests for Concrete Materials.
Topical discussion on Methods of Measuring Concrete Construction, and on Materials Used for Concrete.
10:30 a. m.
Report of the Committee on Measuring Concrete.
Robert A. Cummings, Chairman.
Report of the Committee on Nomenclature.
Peter Gillespie, Chairman.
Report of Committee on Specifications and Methods of Tests for Concrete Materials.
Sanford E. Thompson, Chairman.
Discussion on Aggregates for Concrete.
Wm. M. Kinney, Assistant Inspecting Engineer, Universal Portland Cement Co., Pittsburgh, Pa.
Discussion on the Use of Calcium Chloride as a Preventive of the Freezing of Concrete.
Richard K. Meade, Chief Engineer, Tidewater Portland Cement Company, Baltimore, Md.
Report of the Committee on Fireproofing.
Rudolph P. Miller, Chairman.
8:00 p. m.
Annual Address by the President, Richard L. Humphrey, Consulting Engineer, Philadelphia, Pa.
Construction of the Hollow Reinforced Concrete Dam of the Portland Railway Light & Power Company.
Robert S. Edwards, Consulting Engineer, Portland, Ore.
Discussion of the Advantages and Comparative Cost of the Hollow Concrete Dam.
W. L. Church, President, Ambursen Hydraulic Construction Company, Boston, Mass.
The Design and Construction of the Keokuk Dam.
Hugh L. Cooper, Chief Engineer, Mississippi River Power Company, Keokuk, Iowa.
Report of the Committee on Insurance.
W. H. Ham, Chairman.
Report of the Committee on Treatment of Concrete Surfaces.
L. C. Wason, Chairman.

Wednesday, March 13.

9:00 a. m.
Meeting of the Section on Reinforced Concrete and Building Laws.
General discussion on Design, Methods of Construction, etc.
10:30 a. m.
Report of the Committee on Reinforced Concrete and Building Laws.
A. E. Lindau, Chairman.
The Design of Concrete Flat Slabs.
F. J. Trelease, Engineer, Corrugated Bar Company, Buffalo, N. Y.
Business Session.
Report of the Executive Board.
Election of Officers.
Place of next Convention.
3:00 p. m.
The Control Beam as a Field Test for Concrete.
Fritz E. von Emperger, Consulting Engineer, Vienna, Austria.
Notes on the Deformation in the Webs of Rectangular Concrete Beams.
H. C. Berry, Assistant Professor of Materials of Construction, University of Pennsylvania, Philadelphia, Pa.
Continuous Concrete Beams.
Dr. E. Probst, Consulting Engineer, Professor, Royal Technical High School, Berlin.
The Construction of the Fireproof Type of School House with Separately Molded Members.
Theodore H. Skinner, Architect, Oneida Community, Ltd., Oneida, N. Y.
Unit Cost of Reinforced Concrete for Industrial Buildings.
F. W. Reynolds, Lockwood, Greene & Co., Boston, Mass.
8:00 p. m.
Methods of Construction Used in the Arbuckle Building, Brooklyn.
R. C. Wilson, Assistant Engineer, Turner Construction Company, New York, N. Y.
The Design and Construction of a Reinforced Concrete Dome, 220-foot span.

Dr. S. J. Trauer, Chief Engineer, Breslau, Germany.
The Design of Reinforced Concrete Domes.
H. Brussel, President, Reinforced Concrete Company, St. Louis, Mo.
The Design of Concrete Grain Elevators.
E. Lee Heidenreich, Consulting Engineer, Kansas City, Mo.
The Construction of Concrete Grain Elevators.
John S. Metcalf, Consulting Engineer, Chicago, Ill.
Reinforced Concrete Grain Elevators and Silos.
M. S. Ketchum, Consulting Engineer, Boulder, Colo.
The Use of Concrete in the Fourth Avenue Subway, Brooklyn.
Frederick C. Noble, Division Engineer, Public Service Commission, Brooklyn, N. Y.

9:00 a. m. Thursday, March 14.
Meeting of Section on Treatment of Concrete Surfaces.
Topical discussion on the Artistic Treatment of Concrete Surfaces.
10:30 a. m.
Concrete Highway Bridges.
Walter Scott Gearhart, State Highway Engineer, Extension Department, Agricultural College, Manhattan, Kan.
The Dallas Oak Cliffe Viaduct.
Ira G. Hedrick, Consulting Engineer, Kansas City, Mo.
Flat Slab Bridges.
W. H. Finley, Assistant Chief Engineer, Chicago & Northwestern Railroad, Chicago, Ill.
The Use of Cement for Protecting the Steel Pipes along the New York Aqueduct.
Alfred D. Flinn, Department Engineer, Board of Water Supply, New York, N. Y.
8:00 p. m.
The Necessity for Good Roads.
Logan Waller Page, Director, Office of Public Roads; President American Good Roads Association, Washington, D. C.
Cement Paving Constructed at Mason City, Iowa.
F. P. Wilson, City Engineer, Mason City, Iowa.
An Improved Concrete Pavement.
E. W. Groves, City Engineer, Ann Arbor, Mich.
Concrete and Highway Construction.
Report of Committee on Roadways, Sidewalks and Floors.
C. W. Boynton, Chairman.
Report of Committee on Education.
Logan Walter Page, Chairman.

9:00 a. m. Friday, March 15.
Meeting of the Section on Roadways, Sidewalks and Floors.
Topical discussion covering the Preparation of Materials, Laying, Finishing, Costs.
10:30 a. m.
Report of the Committee on Building Blocks and Cement Products.
P. S. Hudson, Chairman.
Advantages and Durability of Cement Sewer Pipe.
Gustave Kaufman, Engineer, the Wilson & Baillie Manufacturing Company, Brooklyn, N. Y.
Cement Drain Tile.
A. Marsten, Dean School of Engineering, Iowa State College, Ames, Iowa.
The Manufacture and Use of Cement Drain Tile.
Charles T. Sims, Worthington, Minn.
Methods of Testing Cement Pipe.
Duff A. Abrams, Assistant Professor, University of Illinois, Urbana, Ill.
8:00 p. m.
Reception and Banquet. Hotel Baltimore.

9:00 a. m. Saturday, March 16.
Meeting of the Section on Building Blocks and Cement Products.
Topical discussion on the Manufacture, Curing, Cost, etc., of Cement Products.
10:30 a. m.
Concrete Fence Posts.
W. J. Towne, Engineer of Maintenance, Chicago and Northwestern Railroad, Chicago, Ill.
Some Notes on the Value and Comparative Cost of Reinforced Concrete Telegraph Poles.
George Gibbs, Chief Engineer of Construction, Pennsylvania Railroad, New York, N. Y.
Concrete Piles and Harbor Work.
Dmitri Alexeev, Engineer, Russian Northern Railway, Moscow, Russia.
Reinforced Concrete Piles.
Robert A. Cummings, Consulting Engineer, Pittsburgh, Pa.
The Concrete Block Industry in Russia.
Alexander Zuberbuhler, Engineer, Moscow, Russia.
Modern Methods of Manufacturing Concrete Products.
Robert F. Havlik, Engineer, Ideal Concrete Machinery Company, South Bend, Ind.
8:00 p. m.
The Use of Concrete in Irrigation Work.
F. H. Newell, Chief Director, U. S. Reclamation Service, Washington, D. C.
Reinforced Concrete in Agriculture.
W. A. Collings, Engineer, Builders Material Supply Company, Kansas City, Mo.
The Handling of Concrete in the Construction of the Panama Canal.
S. B. Williamson, Engineer, Pacific Division, Panama.
Iron Portland Cement.

VICTOR TALKING MACHINE CO.'S LATEST BUILDING.

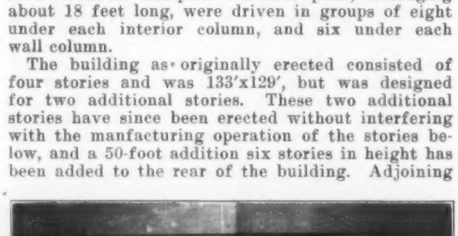
Camden, N. J., Feb. 17.—The latest building to be erected by the Victor Talking Machine Company, Camden, N. J., is a six-story reinforced concrete cabinet factory, 191'x129'.

The site of the building was originally used as a wharf, and the soil is of such character that it was necessary to use piling, for which purpose 16-

VICTOR TALKING MACHINE CO.'S FACTORY.

inch diameter Simplex concrete piles, averaging about 18 feet long, were driven in groups of eight under each interior column, and six under each wall column.

The building as originally erected consisted of four stories and was 133'x129', but was designed for two additional stories. These two additional stories have since been erected without interfering with the manfacturing operation of the stories below, and a 50-foot addition six stories in height has been added to the rear of the building. Adjoining



INTERIOR OF VICTOR TALKING MACHINE CO.'S FACTORY.

this also is a kiln building, used in connection with the cabinet factory, 128'x169'.

The columns of the cabinet factory are circular in the interior and rectangular at the walls. They are placed 15'x25' on centers, and the floor panels are unusually large for this kind of construction. The arrangement of the beams and girders was designed especially with reference to obtaining a maximum amount of light in the interior of the building, which result has been obtained to a high degree.

Although entirely fireproof in its construction, the building is provided with ample means of exit for the employees in case of fire by means of two independent brick enclosed tower fire escapes located outside the walls of the main building. The windows are of sheet metal with wire glass. A complete sprinkler system is installed.

Ballinger & Perrot, architects and engineers, Philadelphia, were the designers of the building, which was erected under their supervision, the first section being erected by Roydhouse-Arey Company, and the additions by J. S. Rogers Company, Moorestown, N. J.

TEXAS

The Largest State in the Union Will Use a Tremendous Quantity of Cement in Its Big Dams.

Many large projects that involve the use of enormous quantities of cement in concrete construction are on foot in Texas. Several of them are proposed dams for the storage of water for irrigation and hydro-electric purposes. The most notable of these already in an advanced state of accomplishment is that of the St. Stephen Land and Irrigation Co., which is controlled by Kansas City, Mo., men. The site of this reinforced concrete dam is about eleven miles south of Marfa, a station on the Southern Pacific Railroad, in the arid region of Southwestern Texas.

Another large reinforced concrete dam is to be constructed across the canyon of the Devil's river, north of Del Rio, the promoters of this project being former Governor David R. Francis, of St. Louis, Mo., and D. B. Chapin, of Edinburg, Texas. Mr. Chapin is already largely interested in irrigation enterprises in the lower valley of the Rio Grande. The Devil's river dam will cost upwards of one million dollars, it is stated. The water will be conveyed in canals and ditches over about one hundred thousand acres of land. In connection with this irrigation scheme a large hydroelectric plant will be installed. The surveys for the dam and canal system are now being made.

The negotiations for the construction of a reinforced concrete dam across the Colorado river at Austin, to replace the structure that was destroyed by flood several years ago, are still in progress. There are several large contracting concerns figuring on the work. The cost of the structure will be about one million dollars.

Dr. F. S. Pearson, of New York, who is at the head of the British syndicate that owns the Mexico Northwestern Railroad and large electrical enterprises in Mexico, has had under consideration for some time the construction of a series of large reinforced concrete dams across the Nueces and other streams in South Texas and the installation of hydro-electric plants, as well as the construction of irrigation systems with the view of placing water upon about two hundred thousand acres of land. Under his direction a corps of engineers has been employed for several months making surveys for the proposed improvements. It is stated that the Pearson syndicate will invest about five million dollars in the big project.

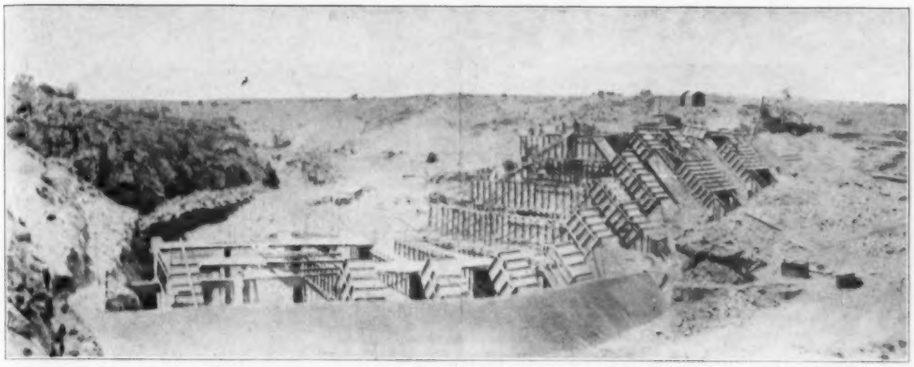
The city of New Braunfels has taken steps to construct a reinforced dam across the Guadalupe river and to install a hydro-electric plant.

The Colorado River Power Company, which is constructing a reinforced dam across the Colorado river at Marble Falls and installing a hydro-electric plant, is planning to construct a similar dam across the same river near Kingland, Texas, with the view of affording additional hydro-electric power.

In the lower valley of the Rio Grande concrete is extensively used in the construction of canals for irrigation systems, and much work of this kind is now in progress and in contemplation. The locks, flumes, syphons and other parts of the canal systems are constructed of this material.

Of the many projects in which concrete enters the dam of the St. Stephen Land and Irrigation Company near Marfa is perhaps the most interesting of all the Texas works at this time. The construction of this dam across Alamito creek, a small stream which has its source in springs and flows into the Rio Grande, fifty-one miles from the reservoir site, has been in process for some time. This structure will be 997 feet long and 108 feet high from bed rock. The face wall will be supported by buttresses 40 feet long at the base. It is of the Amburson type of dam. E. D. Cruise is the engineer, and has charge of the work, and W. W. Colpitts, of Kansas City, Mo., is consulting engineer in conjunction with the Amburson company. The other officers of the St. Stephen Land and Irrigation Company are Rees Turpen, president and general counsel; Sanford J. Truman, secretary and Henry Koebler, treasurer. This will be the tallest dam in Texas. It will impound water from a drainage area of 496 square miles which drains into Alamito creek. The reservoir will have a capacity of 1,120 acres of water with an average depth of 35 feet.

In selecting a site for this dam and reservoir special attention was given to the proposed establishment of a gravity system of canals that would convey the water of the valley that is to be irrigated. This irrigable tract is more than 100 feet below the reservoir site. Water will be taken out of the big artificial lake and run through two



REINFORCED CONCRETE DAM UNDER CONSTRUCTION NEAR MARFA, TEXAS.

more ditches, one of which will be located on the east and the other on the west side of the tract of land. In order to reach the land it is necessary to run a tunnel through a cliff 650 feet long. This tunnel is now being excavated. The construction of these canals and ditch system will enable water to be placed upon 9,000 acres of land by means of gravity. If this enterprise meets with the success that is expected by its promoters it will perhaps mark the beginning of a general movement to bring under cultivation large tracts of land in the desert region of the more altitudinous part of Texas. While there are already a number of irrigation systems in operation along the Pecos river, none of them is of the character that is being installed near Marfa. While the land that is to be reclaimed by the latter system is in what is called a valley it is nothing more than a level area of land bordered by rugged hills. There are innumerable stretches of this character of land all through the upper border region of Texas and almost every one of them is susceptible of irrigation from storage reservoirs which may be formed by the construction of dams.

In order to demonstrate the productiveness of the soil of the land that is to be watered by the system of irrigation that is being constructed near Marfa the St. Stephen Land and Irrigation Company has established a farm of 10 acres which is being managed by a practical irrigation farmer. Various kinds of products are being grown upon this land and every phase of agriculture that is thought to be adapted to that section is being tested.

The land in the upper border section has heretofore been considered almost absolutely worthless for agricultural purposes. It is for the most part owned by a comparatively few men who use it for ranching purposes, and even as a grazing proposition it is not as good by any means as that of the more eastern sections of the state. There has been such little demand for the arid land that its market value is from $2 to $10 per acre. While a great deal of this land is rough, being broken by ranges of hills and low mountains, there are many areas of considerable size which are level and capable of being irrigated from water storage reservoirs.

The Marfa section has its regular annual rainy season which usually commences along in August and continues for two or three months. During this period as well as occasionally during other times of the year the precipitation is sufficient to afford a water supply for irrigation during the crop season, if stored. It is claimed that the soil is very rich, and that all it requires to make it highly productive is water. The region is sparsely settled, the ranch houses being 10 to 30 miles apart, and if the present movement to reclaim the land is successful it will mean the establishment of many new homes and a great augmenting of the agricultural production of the state. It offers a new field for investment that promises to attract no little attention. The cheapness of the lands, the availability of sites for dams and storage reservoirs and the assurance of an ample supply of water for irrigation are the elements that enter into the new proposition of which the prospects for the future seem to be bright.

POWER HOUSE TO BE ENLARGED.

The New York, New Haven & Hartford railroad power house at Cos Cob, Conn., is to be enlarged, the contract for the work having been awarded the Fred T. Ley & Co. of Springfield, Mass. The original building, constructed entirely of concrete blocks made on Hercules machines, was over 250 feet long, 112 feet wide and 50 feet high. It required over 30,000 blocks. An idea as to the size of the building can be realized from the fact that it contains twelve large boilers and over 150 carloads of machinery.

The blocks used are 10 inches high, 12 inches wide and 24 inches long. Work on the new addition will be commenced at once. The necessary Hercules machines and equipment has already been installed by the Century Cement Machine Company, of Rochester, N. Y.

STATUS OF REINFORCED CONCRETE FOR INDUSTRIAL BUILDINGS TODAY.

(By A. D. Mellor.)

Many points with regard to the use of reinforced concrete for the construction of industrial buildings are brought out by the accompanying picture which shows a grouping of the principal buildings constructed entirely of reinforced concrete by the Turner Construction Company of New York. But the most important lesson which it teaches is that the use of concrete for building purposes is no longer an experiment, but is accepted by the largest and most influential concerns in the country who are amply qualified to choose the best type of construction. The history of the use of concrete for building purposes is so short, that even as recently as five years ago, architects, engineers and contractors interested in the erection of reinforced concrete buildings had a hard fight to get even the attention of the prospective owner. There was no well established precedent such as there is today. The leaps and bounds with which the production of Portland cement has increased is being very well reflected in the increase in the number of concrete buildings. Much educational work has been done by the concrete interests within the last six or seven years and the good fruits of this work are already very much in evidence.

That this type of construction is not being chosen by small buyers who may lack purchasing ability is very well brought out by the following lists of owners of the buildings shown in this picture:

Aluminum Company of America.
American Linoleum Company.
Aeolian Company.
Arbuckle Bros.
Alsen American Portland Cement Company.
American Transfer Company.
Alling & Cory Company.
Bush Terminal Company.
Barnet Leather Company.
Behr, Herman, & Co.
Brooklyn Riding & Driving Club.
Blumenthal, S.
Brokaw, I. V.
Board of Education, New York.
Baker Oil Company, S. T.
Burt Company, F. N. (Limited).
Carborundum Company.
Cleveland Varnish Company.
Christopher, J. G.
Cross, Austin & Ireland.
City of Springfield.
Chapman Docks Company.
Chapman, N. H.
Chelsea Fibre Mills.
Carlton House.
Dairymen's Manufacturing Company.
Delaphena & Co., R. U.
Defiance Paper Company.
Development & Funding Company.
Dreka, G. A.
Desbrock, H.
Dold Packing Company, Jacob.
Dongall Varnish Company.
Everson & Sons, Walter S.
Eastman Kodak Company.
Eagle Warehouse & Storage Company.
Emmet Alida, Beekman (Champion Laundry Company).
Elliott, Maxine.
Eastern States Refrigerator Company.
Eclipse Box & Lumber Company.
Firuski, L. L. (Pioneer Warehouse).
Fleischman Company, The.
Gleason-Tiebout Glass Company.
Gair Company, Robert.
Great Atlantic & Pacific Tea Company.
Gretsch, Fred (Corporation).
Gibson Building.
Gilbert, Fred E.
Galvin, J. F.
Greenfield's Son & Co., E.
Hersh & Bro., L. F.
Hardy-Voorhees & Co.
Harvard University.
Hughes, William.
Hygeia Refrigerating Company.
Hermann Lumber Company.
Holston Extract Company.
Irwin, James W.
Iselin, A.
Iselin, Columbus, O. D.
Jones & Co., Samuel.
Kenyon & Co., C.
King & Co., J. B.
Keuffel & Esser Company.
Kent, Emily T.
Judge Keogh.
Ladew Estate, E. R.
Loeser & Co., Frederick.
Ledyard, L. C.
Long Island Railroad.
Murphy Varnish Company.
Mason, Isaac.
Morgan, J. Pierpont.
Marx & Rawolle.
McCall & Co.
North River Insurance Company.
New York City.
New York Edison Company.
New York Central Railroad Company.
New York, New Haven & Hartford Railroad.
Ocean County Bank.
Pierce-Arrow Motor Car Company.
Probst & Shomaker.
Palmer, Lowell, M.
Pratt, H. I.
Pratt, G. D.
Phelps Publishing Company.
Pratt Institute.
Provost Realty Company.
Peerless Brick Company.
Pratt & Lambert.
Royal Baking Powder Company.
Ritz-Carlton Hotel.
Rapid Transit Subway Construction Company.
Schmalz & Sons, John.
Seely's Sons, G. B.
Standard Oil Company.
Smith & Kaufman.
S. I. R. T. R. R. Co.
Standard Typewriter Company.
St. Andrews Golf Club.
Schirmer, G.
Stetson, Francis Lynde.
Simonson, S. T.
Schwarzenbach, Huber & Co.
Stevens, Mrs. R. S.
Scranton & Lehigh Coal Co.
Thonet Bros.
Thrift, The.
Tiffany & Co.
Third Ave. R. R. Co.
Thaw, Benjamin.
United Piece Dye Works.
Union Sulphur Co.
United States Government.
Union Terminal Cold Storage Co.
Vanderbilt, George W.
Waterman Co., L. E.
Western Electric Co.
Walther & Co.
Wilhelm Realty Co.
Wright, Dr. J.
Wainright & Smith.

One of the old arguments which the opposition to concrete used to put forward was that concrete, while good for some few purposes, was not adaptable to many classes of industry, is very well refuted by the list of industries for which the buildings in this picture are used:

Aluminum.	General manufacturing.
Automobile bodies.	Hardware.
Boiler house.	Hotel.
Boiler room.	Iron and steel storage.
Boiler and pump house.	Lithographing factory.
Business stable.	Lumber kiln.
Bookbinding machinery.	Laundry.
Baking powder.	Leather.
Baggage room floor and roof.	Lime.
Bank vault.	Merchandise.
Bridge between buildings.	Machine shop.
Bridge tender house.	Metal specialties.
Barrels.	Milk cans.
Bakery.	Musical publications.
Cement bins.	Office and loft.
Crushed stone bins.	Oil storage.
Carbonated water.	Power house.
Carborundum.	Pump house.
Carborundum (crusher).	Paper boxes.
Chemicals.	Paper stock.
Car barns.	Paint manufacturing.
Clothing.	Plaster.
Cooper shop.	Paper.
Calcimining plant.	Pergola and pavilion.
Chemical laboratory.	Pier.
Coal hoist tower.	Printing.
Chimney foundations.	Private stable.
Coated paper.	Pipe tunnel.
Candy.	Retaining walls.
Dynamo room.	Restaurant and loft.
Dairy stable and buildings.	Reservoir.
Dye works.	Refrigerating tank.
Engine room.	Reservoir cover.
Exhaust flue.	Railroad station.
Electrical supplies.	Stadium colonnade.
Engineering supplies.	School.
Fence.	Sulphur.
Fence and sidewalk.	Stores and lofts.
Fence and stairs.	Sand paper.
Fur.	Sand and gravel bins.
Freight terminal rooms.	Swimming pools.
Fountain pens.	Signal towers.
Furniture.	Sugar.
Glass.	Turbine room.
Gummed paper.	Trench covers.
Gypsum crusher.	Tank platforms.
General storage.	Varnish.
Groceries.	Wood drying room.
Garage.	Wood planing mill.

EXAMPLES OF REINFORCED CONCRETE BUILDINGS FROM ALL PARTS OF THE UNITED STATES.

Another important lesson which this picture teaches is that such a city constructed entirely of reinforced concrete would be absolutely fireproof. In view of the outrageously large annual per capita fire loss from which we are suffering in this country, this feature should have a particular significance. Such a community would have absolutely no annual charge for fire insurance on structures. The only insurance which it would have to carry would be that for covering the contents of the buildings. The National Association of Cement Users have found that out of 255 owners of reinforced concrete buildings, located in different parts of the United States, from whom they have received complete data with regard to the insurance question 26.6 per cent carry no insurance whatsoever on their buildings.

When it is borne in mind that each of these buildings are surrounded by bad risks in cities filled with bad risks, it is very clear that in a city constructed entirely of reinforced concrete it would be absolutely unnecessary to carry building insurance. When you consider that for yourself and for each member of your family you are contributing annually $2.47 to meet the loss of property due to fire in this country, and that if our buildings were constructed of this fireproof construction you would be free from this indirect tax levy, the possibilities of this class of construction come home to you very forcibly.

Disease, which the world is continually fighting and which the improved sanitary conditions instituted during the past decade have very much improved, has a very formidable foe in reinforced concrete. A city such as shown in this picture would be absolutely vermin-proof. There would be no place in the structure for the vermin to lodge. There are no cracks, no holes to shelter them. Also there are no dark corners in these buildings. This type of construction allows of the admittance of the maximum amount of daylight. A visit to any of these buildings will show that the most interior sections are thoroughly lighted. This means that such a city would be entirely free from the refuse piles which invariably form in the dark corners of buildings. It is a well established fact that a reinforced concrete building is much easier to keep clean. All of these points touching upon sanitation, together with the fact that lime, which is a sanitary agent, is one of the principal ingredients of cement, make it clear that our health conditions will become vastly bettered as the spread of reinforced concrete construction goes on.

Representatives of the Santa Cruz Portland Cement Company have applied for a franchise to erect a new pier at the town of Santa Cruz, Cal. The structure is to be of reinforced concrete and steel, and will extend 3,000 feet into the Bay, to a depth of 30 feet of water, affording facilities to all ordinary ocean vessels. The cost is estimated at $500,000. Aside from affording the company greatly improved facilities for shipping cement direct from the plant to all parts of the Coast, the pier will be under municipal control, and is expected to cause a great increase of general traffic at Santa Cruz, where water shipping facilities have been poor in the past.

NO MEETING THIS YEAR.

Minneapolis, Minn., Feb. 17.—The Northwestern Cement Products Association does not expect to hold a convention and show this winter. This decision has been reached only after several attempts had been made toward getting things started to hold such a gathering. A tentative date was set for March 1 and 2, and it was confidently expected that the cement users of the Northwest would back up the project for a show. But when a letter was sent out by the association asking for a statement from those who were prepared to attend a meeting, the responses were too few to justify proceeding. It is apparent from statements which have been made since the letter was sent out that a number expected to attend, but neglected to send in their statements to that effect. As the officials and committees in charge had to have a prompt response upon the matter, they could do nothing else than decide to drop it. There would doubtless be a sufficient attendance from users in the Northwest to justify the show, but there was no support whatever from machinery houses and others who usually lend their assistance by making a display. It was not intended to hold a regular display of machinery and supplies, but there must be a fair representation of machinery and supply houses if a convention is to be a success. The replies to letters of inquiry as to the number of manufacturers who would attend was disappointingly few, and this, with the lack of expressed interest from the cement users, resulted in dropping the entire project. Probably the action will have a good general effect upon the members. There is always a great many who stand ready to attend these gatherings but never take the trouble to advise anyone of that fact. Now, that a meeting has been given up because it was not possible to secure any such support, it may have a tendency to induce them to pay more attention to the matter when it comes up again. There is no real decline in the interest in cement using in the Northwest, nor any decline in the amount used. On the contrary, the amount used is growing larger. There is doubtless a decline in the number of small users of cement—small manufacturers and small contractors. The reason for this is that the small user has either dropped out of business or has gone into using it on a larger scale. Many of the small users of a few years ago are now using it in large quantities. And many other small users of a few years ago have developed a lack of affinity for the business and have dropped out of it to take up something else. The effect of this action has very good indeed for it has resulted in better work and more dependable work. There is a much smaller number of concrete block manufacturers, especially in the larger cities, where poor work resulted in giving the blocks, good and bad, a poor name and discouraged their use. In the country this is not so much the case, and the country plants are making block as well as sidewalk and drain tile in good amounts.

M. T. Murray, of Altus, Okla., received the contract to erect the new reinforced concrete city hall at Clinton, Okla., for about $20,000.

The Sanford Concrete Machinery Company, of Toledo, Ohio, has increased its capital stock from $60,000 to $125,000.

P. H. Harrington, of Slayton, Minn., has purchased the McCracken Cement Tile Factory at Paulina, Iowa.

J. H. Jones & Son, of Centralia, Ill., had a display of concrete burial vaults at the recent meeting of the Central and Southern Illinois Poultry, Pigeon and Pet Stock Association at Centralia.

The Great Central Concrete Construction Company, of New Athens, has been granted a charter to do a general construction business. The concern will have a capital of $2,500. The incorporators are Edward P. Leilich, George Leilich and Hilmar C. Lindanuer.

Engineers Irvin & Witherow regard the prospects for concrete work in the Pittsburgh district in 1912 as very bright. Much more work is coming on to the boards than last year, they say, and indications are that nearly all of it will go through the contract stage.

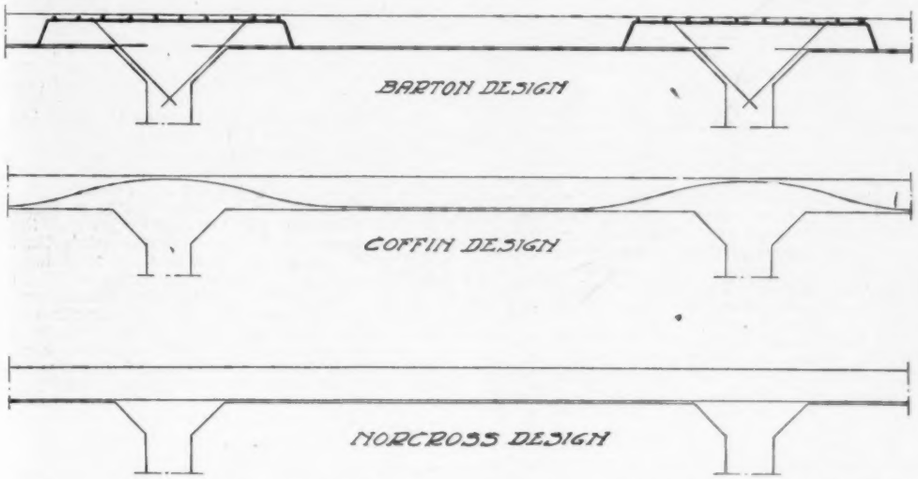
The Pennsylvania Coal & Coke Company has work well advanced on its big motor barns at Patton, Pa., which is one of the best reinforced concrete jobs in that part of the state. Plans were made by Pihl & Miller, of Pittsburgh.

UNIT SYSTEM HEAD

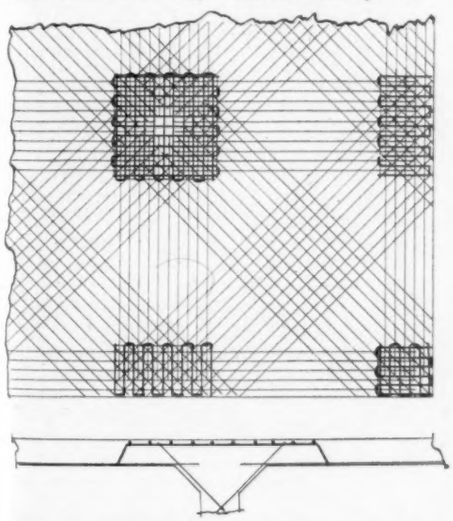
As Developed to Its Perfection—By Francis M. Barton of Chicago.

While there are a great many unit systems of girder constructions, it developed on Francis M. Barton, a prominnet engineer of Chicago, Illinois, to invent a unit system head for flat slab constructions. The design is also a most economical construction, as the steel used to take care of the positive moment is as close to the bottom of the floor slab as possible, and the steel used to take care of the negative bending moment is as close to the top of the slab over an adjacent to support as possible.

This construction is not infringed by any patents.



The value of this invention can only be appreciated after a thorough knowledge of the development of reinforced concrete art. In 1901 Orlando Norcross patented a flat slab floor on concrete columns, in which all the reinforcement laid near the bottom of the slab; and in 1902 Freeman C. Coffin, of Boston (deceased), constructed the floor and column structure of a reservoir at the Bridgewater works, in which he raised part of the floor reinforcement to the top of the slab over the supporting columns, using the catenary curve. Until the advent of the Barton System it was the custom to follow Coffin's idea, but the objection to this method, where rods were used, were, that the various belts crossing over the supporting columns constitute a conglomeration of rods, which the ordinary laborer



failed to lay properly; and then the bottom layers of metal were disposed to lie far below the tenside zone in the slab over and adjacent to the supporting columns, with the result that few engineers, outside of specialists of experience in reinforced concrete, care to assume the responsibility of using flat slab construction. The inventor of the Francis M. Barton construction has overcome this objection by forming a mat of heavy rods, whose prime purpose is to take care of the negative bending moment over and adjacent to the supporting columns, and which cannot be laid anywhere, except in the right place, at the top of the slab, while the slab rods lay in stirrups formed on end of mat. It will be noted that the mat is made of two layers of rods, which makes it possible to tamp the concrete of column and head as the rods are spaced sufficiently apart to be able to get below the mat with a tamper.

This invention, from the standpoint of efficiency as well as economy, is as much an improvement on the design of the floor and column construction of the Bridgewater Reservoir Building as was the Bridgewater Construction an improvement on the Norcross Construction.

The above illustration shows the various constructions referred to, and attention is called to the zone of counterflezure, which shows what the mat rods, slab rods and stirrups amply provide against any deformation. The mats are formed at the shops and can be shipped or handled one on top of each other, so that they require but little space so stacked.

The inventor of this construction is the inventor of several systems of reinforced concrete constructions, and was constructing engineer in the United States Navy as far back as 1900, and is considered a leading authority on reinforced concrete construction.

Mr. Barton is more than an engineer, more than an architect, in the use of reinforced concrete. He is a practical expert and an adept in the value of materials. Few engineers have appreciated the full value of the application of the negative reinforcement at the top of the slabs and other structural members so completely as he. The present developments as studied by the accompanying illustrations are very convincing to those who have not heretofore completely understood the cantilever principles in the reinforcement of concrete.

PITTSBURGH CONCRETE NEWS.

Pittsburgh, Pa., Feb. 17.—Engineers and architects are encouraging concrete men in the belief that this will be one of the best years in business for this sort of construction that Pittsburgh has ever seen. A large amount of river and harbor work is on the dockets for early spring along the Ohio river as well as the Allegheny and Monongahela rivers. Extensive repairs to dams on these rivers are being authorized. The Point bridge project at Pittsburgh and three other bridges which are in contemplation by county commissioners make it certain that there will be no lack of river work here. Also there is a practical certainty that a tunnel will be punched through the south side hills this year, the only question now to be settled is as to its exact location. City councils are putting forth every effort to use wisely and quickly the big bond issue that was provided for street improvements, and a large amount of this work is sure to go forward, all of which will result in considerable concrete construction. The building outlook itself is very much better. The Pittsburgh Industrial Development Commission, in its campaign to get new factories for Pittsburgh, has prepared maps showing every available manufacturing site in the Pittsburgh district, and is getting good results from this sort of publicity. Probably double as much work is now on the boards of engineers and architects here as last year, and there is a growing tendency to make a larger proportion of it every year concrete or reinforced concrete construction.

Pihl & Miller have secured the contract for the foundations for the Frick & Lindsay warehouse on the north side, to be 103' x110' and six stories high with basement. There will be a reinforced concrete floor and the foundation will rest on 400 concrete piles 22 feet long, for which the Raymond Concrete Pile Company has the contract. O. R. Pihl has been spending the winter abroad, but is expected to return about March 1st.

Irwin & Witherow have pulled down some of the best contracts awarded for a long time in Pittsburgh. One of these is for the George A. Kelly store and warehouse, six stories and 130' x 100', at Ninth street and Duquesne way, which will cost $125,000 and have a large amount of reinforced concrete construction. Another is the big plant of the Krupps Motor Car Company, to be erected in Beaver, Pa. This will consist of a machine shop and assembling room two stories high and 85' x 300', administration building five stories high and 85' x 85', general assembling room and tin shop two stories high and 85' x 100', shipping department two stories high and 85' x 200', storage warehouse two stories high and 85' x 200'. Bids for the job will be taken early in the spring.

An ordinance regulating the use of reinforced concrete will be considered by the Pittsburgh councils shortly as a result of efforts made by the Pittsburgh commission for the revision of building laws. "This city has never had a law regulating building of this kind," said Edward A. Stotz, chairman of the commission. The other members of the commission are F. H. Kindel, Joseph A. Weldon, Architect F. A. Russell, D. P. Black, S. N. Murphy and N. S. McDowell.

There is a notable agitation on in Pittsburgh at present for fireproof dwellings in which concrete products will figure much more largely than heretofore. Architects are recommending this sort of construction and especially in the better class of dwellings are specifying much of the new style of work, which is being favorably received by owners and especially by insurance companies.

James Stewart & Co. have the contract and are starting work on a six-story reinforced concrete warehouse for the Alling & Corry Company on the north side. Concrete piles will be driven for foundation.

Probably the heaviest reinforced concrete girders ever used in the Pittsburgh district are being put in the addition to the H. J. Heinz Company's pickle works on the north side. They were built to span the Butchers' Run sewer and support the center pier of columns in the five-story building. The Raymond Concrete Pile Company, of this city, has the contract for the girders, which are 46 feet long, six feet wide and seven feet deep. Each base will support a weight of 300 tons. In addition to the beams there will be 503 concrete piles driven to a depth of 25 feet in piers of 8 and 10. Each pier will be capped with four feet of reinforced concrete and approximately 700 cubic yards of concrete in the footings. The floors of the building carry a live load of 350 pounds per square foot for the first and second floors and 250 pounds on the third, fourth and fifth floors.

SECOND CARLOAD.

Pulaski, Ill., Feb. 21.—A second carload of Sneed patent concrete ties has been sent to the Illinois Central railroad at Carbondale, where they will be placed in the tracks. This order followed an eighteen months' test by the road. The St. Louis & Cairo Railway Company, an interurban company out of Cairo, will make a test. The Pulaski Concrete Works, which makes this tie, will have an exhibit at the Cement Show in Chicago.

Contracting and building and manufacturing and selling concrete blocks are the aims of the Ideal Concrete Block Company, Peoria, Ill., which has been incorporated with a capital stock of $5,000. The incorporators are Phillip and Christian Hoeer and Jacob H. Schick.

L. B. Allen, of Heyworth, Ill., with several years' experience in concrete work, is the senior member of the new firm of Allen & Casey, makers of concrete products and general concrete contractors at Heyworth. The junior member is E. E. Casey.

The Illinois Valley Cement Products Company, of Farmington, Ill., probably will sell the building it now occupies and erect a new one more suitable for its purposes. The company has had representatives at public sales explaining the merits of cement posts.

E. G. Kemper, of Burlington, Iowa, and Perry Jackson, of Waverly, Ill., have begun the manufacture of cement burial vaults and other cement products at Waverly.

A. B. Kipp & Company, Minonk, Ill., are in the market for a mixer and tamper.

UNION CITY CONCRETE NEWS.

Union City, Tenn., Feb. 14.—Your correspondent finds considerable work in progress here along concrete lines. The United States government has purchased a site for a Federal building, but work will not commence in some months.

Harris, McAdoo & Dodson Company have recently launched a firm here for making concrete blocks, columns, vases and ornamental work. G. W. Dodson, of Dickson, Tenn., is with them and is now building several business houses for H. N. Horner and Attorney Chas. Cobb.

T. L. Bransford & Sons are doing the concrete work on a handsome corner building for the Ligon Furniture Company. Also the concrete flooring in a garage building here. They handle cement, plaster and a general line of builders' supplies and report a most satisfactory season.

NEW YORK CONCRETE NEWS.

New York, N. Y., Feb. 13.—The reported growth of concrete building operations in this city has instituted a new set of building rules by the municipal authorities; several hearings have been held here during the past month by Superintendent of Buildings R. P. Miller with regard to a tentative draft of such regulations. No serious objections have been raised to the rules so far drawn, and there is a probability that they will go into effect.

The draft under consideration conforms closely to the ordinarily accepted recommendations of the Joint Committee on Concrete. When the revision has been completed Superintendent Miller will promulgate the new regulations and put them in effect.

Article 4 was revised to read as follows: "The concrete for reinforced concrete structures shall consist of a wet mixture of at least 1 part cement and not more than 6 parts of aggregate (fine and coarse), either in the ratio of 1 part of cement, 2 parts of sand and 4 parts of broken stone or gravel; or in such ration that the resistance of concrete to crushing shall not be less than 2,400 pounds per square inch at the end of 28 days."

The discussion of Articles 14 to 19, inclusive, governing the determination of bending moments, resulted in the following conclusions:

M for slabs uniformly loaded and simply supported—⅛ W l.

M for slabs uniformly loaded and continuous over two or more supports—1-12 L.

M for slabs uniformly loaded, reinforced in both directions supported on both sides, and fully reinforced over the supports—1-F W 1; where F—8 when slab under consideration is not continuous, or continuous over one support only, and F—12 when slab is continuous over two or more supports.

M for beams simply supported—⅛ Wl.

M for beams supported at one end and continuous at the other shall be figured as partially restrained —1-10 Wl for the centre and ⅛ Wl over intermediate support.

M for beams continuous over two or more supports—1-12 Wl.

A two-story reinforced concrete fireproof mill for the A. P. W. Paper Company at Middle Falls, N. Y., 60x250 feet, to cost about $50,000. The architect is Charles A. Ogden, 59 State street, Albany, N. Y.

Work will be started at once on the two-story, reinforced concrete warehouse, 215x90 feet, for the Standard Oil Company, on Claremont avenue, Jersey City, N. J. The Turner Construction Company, of 11 Broadway, New York, N. Y., will build the structure.

An eight-story fireproof factory will be constructed of concrete, steel and brick for the Manhattan Soap Company on 10th avenue, between 31st and 32d streets, New York city, at a cost of $200,000. The architects and engineers are Lee & Hewitt, 1123 Broadway, New York city.

TWIN CITIES CONCRETE NEWS.

Minneapolis, Minn., Feb. 16.—The Minneapolis city council has just passed an ordinance which declares that city construction work, which is under the control of the council, shall be done by day labor unless a majority of the council regards it advisable to have it done by contract. For some years the city has done its paving work by day labor, under the direction of the city engineer. Its sewer work has been done in the same manner. A large concrete sewer is being constructed across the south end of the city, to be about seven miles long when completed. This is of reinforced concrete and started at the mouth with a depth of something like fifty feet. This is being done by the day. All that has been done by contract has been the fire engine stations and one or two other buildings. The school buildings are under the board of education and the park buildings are under the board of park commissioners, so that the city council has nothing to do with the details of awarding contracts with either. But the object is to get the city thoroughly committed to day labor and then proceed to get the other boards into line. The move comes from organized labor, which has secured a resolution to pay day labor $2.25 a day of eight hours, and this will be sought of the other boards.

G. E. Ingersoll, of St. Paul, who has handled the Smith mixer for years, has associated G. C. Borchert with him, the firm style becoming the G. E. Ingersoll Company. They will handle the T. L. Smith mixer, Blaw collapsible steel centers, and other implements.

The Minnesota state highway commission has recently installed a laboratory and testing machinery for testing the qualities of cement and gravel to be used in the construction of bridges and culverts in the state.

The Worthington Concrete Tile Co., of Worthington, Minn., is installing a new power machine for making concrete blocks. The plant uses steam curing for its products.

The recent death of Patrick H. Carney, formerly of Mankato, Minn., removed a picturesque figure from the building trade, although he has not been active in the work for some time. Mr. Carney was the founder of the cement and lime business conducted by Carney Bros., at Mankato, Minn., and was well known to the lime and cement trade generally. He was 74 years of age and had been in poor health for some time. Death occurred at the home of a daughter in Duluth. The interment was in Mankato.

The Minneapolis city council appointed Louis Clousing, department engineer, and Thomas Bues to attend the Chicago cement show.

The H. N. Leighton Co., of Minneapolis, which has the general contract for the erection of the new postoffice building for Minneapolis, has placed a contract with the Chicago AA Portland Cement Co. for 30,000 barrels of cement to be used on the job.

Wesley Simmons and Willis Gillette have bought the interest of Robert Heilman, manager of the Marshall Tile & Cement Co., of Marshall, Minn. Mr. Heilman retires as manager of the business.

Saffert & Pusch, cement contractors of Fairfax, Minn., have dissolved partnership, George J. Saffert succeeding.

The Kenyon (Minn.) Concrete Works has completed a model plant for the manufacture of building blocks, silo blocks, cement brick, cement tile and other articles. The building is steam heated, and all materials are steam cured and under cover. There is one power tamper, two power mixers and other machinery.

LOUISVILLE CONCRETE NEWS.

Louisville, Ky., Feb. 17.—The fact that the tallest building in the entire South is to be erected within the next few months in Louisville is attracting the attention of concrete engineers throughout the Ohio valley. The Southern National Realty Company, recently organized by the Southern National Life Insurance Company, of Louisville, has secured a long-term lease upon a big corner tract at Fourth avenue and Market street in this city. The site contains at present a three-story building occupied by the passenger offices of the Illinois Central Railroad Company, and its new lessees propose to erect a twenty-story office building thereon. Plans for the Southern National building are now being drawn. It is assured that the structure will be twenty stories or more in height, fronting for extensive length along both Fourth avenue and Market street, at a corner which used to mark the heart of the shopping section but which is now reckoned to be in the lower section of the retail business district. The biggest building in Dixie will be of concrete, steel and brick construction, equipped in every nook and corner with the most approved conveniences which modern offices demand. Work of construction will begin as soon as the Illinois Central offices can remove and leave opportunity for the present structure to be razed.

The municipal contract for the erection of the big new City Hospital in Louisville has been awarded to A. Bentley & Sons, general contractors, of Toledo, Ohio, at the minimum bid of $606,060 for the erection of the necessary buildings and the furnishing of materials therefor. The equipment of the immense institution will cost $200,000 more, leaving a neat sum from the $1,000,000 bond issue for the inaugural operation of the hospital. The Toledo contractors have announced that ground will be broken on the job at Floyd and Chestnut streets March 1 and that subsequent work will be rushed as rapidly as possible so as to insure completion of their part of the contract within the sixteen months' time limit. The hospital will be of reinforced concrete throughout, and will be a notable piece of work.

The eighteen-story office building of the Inter-Southern Life Insurance Company, at Fifth avenue and Jefferson street, in Louisville, will soon be ready for concreting. Work has been begun upon the ponderous iron frame of what will be, when completed, the tallest structure in the city; and inasmuch as several stories of steel frame are being added each week it will not be long until the concrete jackets surrounding the structural steel will be run up. The Selden-Breck Construction Company is handling the Inter-Southern job and promises completion in record time, as fair weather continues.

The Ohio River Improvement Company, ice-bound in its operations for the past month, is now getting a start on the important Federal contract which was awarded to it for widening the Louisville & Portland canal, circumventing the falls of the Ohio opposite this city. The canal job includes the erection of several hundred feet of concrete canal wall and several abutments, which will consume an aggregate of over half a million cubic feet of concrete.

The Central Concrete Construction Company has not been operating its block plant during the past month, but is planning to start up again March 1, with an unusually fine amount of business booked. In the face of prohibitive weather conditions the company has completed a couple of nice pieces of work, including the notable Arcade job and the handsome terrace in front of the Hermit's Club. The Arcade is a two-story concrete and brick business structure on the southwest corner of Third avenue and Walnut street, containing fifteen small stores arranged in a peculiar form popular in oriental bazaars. Five of the stores are down-stairs and ten are up-stairs, the entire structure being fronted with glass and provided with promenades which serve as combination entrances for all the shops. The Hermit's Club terrace is an imposing piece of work, ornamented with a beautiful balustrade and costing as a whole only about $1,000, providing an economical decorative feature which has transformed one of the city's oldest clubhouses into a modern bachelor apartment building.

Sam L. Robertson, the well-known West End concrete worker, has not devoted the least attention to his own business during the past month. Mr. Robertson has been strenuously engaged in the work of the House of the Kentucky Legislature at Frankfort in making laws for the Bluegrass commonwealth. The Fifth District representative introduced a number of important measures which have received favorable consideration from the solons.

The American Concrete Construction Company, according to Manager Graham, is waiting for permanent moderation of the weather before embarking upon a number of fine sidewalk paving jobs which are now open. The coming spring promises to be the most successful season of its kind in the history of the concern, said Mr. Graham.

There is nothing doing in the way of concrete construction in Louisville just at present, but the finest prospects ever known in the Gateway City for a warm weather season now exist, according to the National Concrete Construction Company. The National concern was fortunate in not being forced to carry any of its important jobs of last fall through the winter to spring and is now prepared to embark upon new conquests with a clean slate.

The Culley Cement Block Company has not been operating its plant for a month, owing to the naturally sluggish concrete block market, but is working up to a full head of steam at present. The outlook for business has never been better than it is at present, according to Mr. Culley's verdict.

The Tycrete Concrete Products Company, fully ensconced in a comparatively new plant with a complement of brand new down-town offices to help in booming business, is accomplishing its intentions. The Tycrete works at 14th and Oak streets is running under a full head of steam and the market for the product is such that the plant will probably be enlarged and improved for activity in 1912. The new flooring product which the concern is marketing is meeting with much favor.

The work of concreting the big piers of the $2,000,000 Kentucky & Indiana Bridge Company's structure that joins Louisville with New Albany, Ind., across the Ohio river, has been completed for some time and the structural steel portions of the job are now being rushed forward. Work upon this, one of the biggest engineering contracts in the Ohio valley for the past decade, will be completed by July 1, 1912.

Caldwell & Drake, contractors in charge of the 12-story $800,000 Watterson hotel on Walnut street near Fourth avenue in Louisville, have completed the concrete work on the hostelry in a phenomenally short time and the brick and stone portions

are now being laid. The 12-story concrete frame of the Watterson will stand as a big engineering task which was completed in record-breaking time, as not a day was lost in the work of concreting, and both night and day shifts were employed.

Bids for concrete work which will cost more than $1,000,000 were opened a few days ago in the office of Major Lytle Brown, of the U. S. Engineering Corps in Louisville. The work is that of improving the Louisville & Portland canal, one of the finest sections of inland waterway improved maintained anywhere by the government. It is planned to increase the width of the canal from 90 to 200 feet, and to widen the causeway considerably, this being a detail of the federal plan to afford a 9-foot stage all the year around for steamboating from one end of the Ohio to the other. The lowest bid was $1,036,473, offered by the Ohio River Contracting Company, of Evansville, Ind., and, upon the recommendation of Major Brown this concern will probably receive the award. Engineering concerns from Louisville, Cleveland and other prominent cities figured in the bidding. The contract calls for the erection of a lock 100 by 600 feet in dimension at the foot of Twenty-sixth street, the excavation of about 1,000,000 cubic feet of dirt along the sides of the present canal and the building of 65,000 cubic yards of concrete masonry near the Twenty-sixth street lock. Major Brown stated that the present contract is but one of a series, and that the government will expend about $3,000,000 in river improvement at this point within a year or two.

The Watterson Hotel, the Tyler Hotel, the Falls City Construction Company's building and the Weissinger-Gaulbert Annex, all structures averaging 10 stories in height and costing anywhere from a quarter of a million to a million dollars, have been completed by concrete engineers during 1911. The $2,000,000 bridge across the Ohio river between Louisville and New Albany, Ind., has been completed, as far as the concrete work is concerned, by the Foster-Creighton-Gould Company, of Nashville.

Work of widening the Louisville & Portland canal at Louisville, the largest section of inland waterway improvement owned by the government in America, was commenced last month and will be completed within four years. The Ohio River Contract Company, of Evansville, Ind., has been awarded the federal contract for the immense job at an approximate figure of $1,000,000.

The Ohio River Contract Company, of Evansville, Ind., is to start work in the near future upon a recent $1,400,000 contract which it secured from the government for the erection of Lock and Dam No. 48, six miles below Henderson on the Ohio river. This work is to be completed within five years, according to specifications, and will include 139,843 cubic yards of excavation, 69,717 cubic yards of fill and 53,768 cubic yards of concrete.

BEAM and GIRDER SYSTEM vs. MUSHROOM.

A Comparative Estimate of the Costs as Compiled by Lockwood, Greene & Co.

Lockwood, Greene & Co., Boston and Chicago, architects and engineers for industrial plants, recently had occasion to make comparative estimates on the cost of reinforced concrete for a 10-story warehouse 580 feet long by 109 feet wide, using beam and girder construction and a mushroom system. Unit prices were obtained from the records of work done in the vicinity in question and were as near correct as was possible to obtain for a preliminary estimate. It should be noted the figures below do not include plant and tools or any items that would be common to both systems and therefore should not be taken in any way as an estimate of the cost of the building. The quantities in the following tables are based on one strip of floor 19 ft. 3 ins. wide and the height of the structure. It will be noted that the total cost per strip for the beam and girder system is $12,616, while for the mushroom design $12,432, leaving a net saving in favor of the mushroom system of $184 per strip, or $5,520 for the entire building.

The cubic yard price on 1:2:4 concrete is obtained as follows:

	Yard.
Cement, 1⅔ at $1.10 net	$1.80
Sand, ½ yard	.40
Stone, 1 yard	1.00
Labor	1.00
Sundries	.10
	$4.30

Columns cost 70c per yard more for labor.

1½:3 concrete cost $1 more per yard for cement, making cost of $5 per yard for columns.

Mushroom Estimates.

Concrete, 1:2:4 interior cols., 97 cu. yds. at $5	$ 485
Concrete, 1:1½:3 wall cols., 34 cu. yds. at $6	204
Concrete in floors, including slab capitals and wall beams, 675 cu. yds. at $4.30	2,902
Forms for columns, 6,000 sq. ft. at 12 cents	720
Forms for column heads, 40 sq. ft. at $3	120
Interior wall, 20 sq. ft. at $2	40
Forms for floor, including slab and wall beams, 21,850 sq. ft. at 8 cents	1,748
Steel reinforcement (cost includes placing), 51 tons at $34	1,734
Steel lattice columns, 58 tons at $52	3,016
Erecting lattice columns, 32 tons at $5	160
Brickwork, 11 M at $18	198
Windows, 2,990 sq. ft. at 30 cents	897
Royalty	208
	$12,432

Beam and Girder Estimate.

Concrete, 1:2:4 interior cols., 75 cu. yds. at $5	$ 375
Concrete, 1:1½:3 wall cols., 32:5 cu. yds. at $6	195
Concrete in floor, inc. beams, girders and slabs, 550 cu. yds. at $4.30	2,365
Forms for columns, 6,300 sq. ft. at 12 cents	756
Forms for floors, inc. beams, girders and slabs, 30,600 sq. ft. at 9 cents	2,754
Haunches, 80 sq. ft. at $1	80
Steel reinforcing (cost inc. placing), 63 tons at $37	2,331
Bethlehem steel cols., 54 tons at $45	2,430
Erecting, 32 tons at $5	160
Brickwork, 20 M at $18	360
Windows, 2,700 sq. ft. at 30 cents	810
	$12,616

Public Works Director Joseph G. Armstrong has had plans prepared for the Atherton avenue reinforced concrete bridge and the contract will soon be let. Ordinances have also been passed for $150,000 bonds for the Hights run bridge and $450,000 bonds for the Bloomfield bridge. These are among the largest concrete projects ever undertaken in Pittsburgh. The span on the Bloomfield bridge will be the longest single reinforced concrete span in the world, measuring 430 feet. There will also be three spans of 180 feet each and the entire length of the bridge from end to end will be 2,200 feet.

CEMENT HOUSES IN SOUTHERN ENGLAND.

A number of cement-block cottages are being built at Plymouth, England, but Consul Joseph G. Stephens says that the blocks are made by hand in rough molds, which is more expensive than concrete walls. Two men and a boy earning a total of $2 a day make 125 of the blocks a day.

The Point Improvement Company has had plans prepared by Architect T. E. Bilquist for an eight-story fireproof warehouse at the Point to cost $200,000. The contract has been let to the George Hoff Company.

The Illinois Valley Cement Products Company, of Farmington, Ill., has been incorporated with a capital stock of $10,000 to do general contracting and construction business. The incorporators are W. S. Halbert, J. A. Halbert and C. C. Lane. The Burlington railroad has made a survey for a track to the plant. C. C. Lane, secretary-treasurer of the company, recently was in Buda, where he purchased a large supply of gravel.

The Concrete Roofing Tile Company, of St. Louis, Mo., has been incorporated with a capital stock of $5,000 to manufacture concrete products. The incorporators are B. N. Brown, William Conway, P. E. Briscoe, William Briscoe and R. E. Nofsinger.

The last contract for concrete work on the new Union Station of Kansas City was let January 24, by the Kansas City Terminal Railway Company. The contract was awarded to John O'Heron, of Chicago, for $500,000, work to begin at once.

The Vindex Portland Cement Company, Reading, Pa., held its annual meeting recently and the following were elected officers: President, John R. Miller; vice-president, J. C. Illig, and secretary-treasurer, Charles T. Nagle.

The Farmers' Supply Company of Martinton, Ill., has been incorporated with capital stock of $1,180 to deal in building materials, lumber, brick and cement. The incorporators are John W. Schroeder, A. Buchan, L. H. Barom and E. E. Money.

POST TO BUILD.

Battle Creek, Mich., Feb. 17.—Extensive building operations will be carried on this year by C. W. Post of this city. The plans at present contemplate a ten-story, fireproof addition to the Post Tavern, an addition to the Post building which will practically double the floor space of that office building, and a row of downtown business buildings, the whole entailing an expenditure of approximately a half million dollars. It is announced that several contracts have been closed and that operations will begin at once. Joseph C. Llewelling, of Chicago, is the architect for all of the buildings.

The Illinois Building Company of Chicago, Ill., has been incorporated with a capital stock of $10,000 to do general building, contracting and construction business. The incorporators are Rupert J. Barry, Frank Venning and William A. Feeney.

The Schmidt Construction Company of Chicago, Ill., has been incorporated with a capital stock of $2,500 to do general construction business. The incorporators are Henry G. Schmidt, Otto G. Schmidt and S. E. Lambert.

The Granitine Manufacturing Company of Chicago, Ill., has been incorporated with a capital stock of $2,500 to manufacture and deal in granitine, cement, limestone, etc. The incorporators are Joseph A. Washick, Lewis D. Campbell and Robert R. Grogan.

A merger of the two retail yards in Onarga, Ill., is probable, George Booth having purchased the property of the Egley Lumber Company.

The Frank L. Shields Company, of Newark, N. J., has been incorporated to carry on a general contracting and building business with a capital stock of $50,000. The incorporators are F. L. Shields, E. E. Shields and J. E. Laird, all of Newark, N. J.

The P. J. Newkumet Company, of Newark, N. J., has been incorporated with a capital stock of $25,000 to do a general building and contracting business. The incorporators are E. W. Adeau, E. B. Sulk, of Newark, N. J., and F. Brown, of Irvington, N. J.

The Peerless Structural Concrete Company, of Cleveland, Ohio, has been incorporated with capital stock of $15,000 to do a general contracting business. The incorporators are L. C. Carey, Charles Holtz, C. A. Myers, F. G. Clotz and E. E. Bartholomoew.

Citizens in and near Dukedom and Fulton, Kentucky, have organized the Fulton and Dukedom Gravel Road Company for the purpose of building a gravel road between the two towns. The first division will be ten miles long.

The Cumberland Concrete Construction Company has been formed, with $5,000 capital stock, in Clarksville, Tenn., to engage in the manufacture of concrete bricks and blocks. The members of the company have had plans drawn for the erection of a suitable building, 60 by 24 feet in dimension, and will install sufficient mechanical equipment to produce a capacity of 10,000 bricks and 2,000 blocks per day. J. F. Gracey, Jr., is president of the new company, with T. D. Johnson, Jr., as manager.

The Chicago, Milwaukee & St. Paul railroad is making plans for the erection of a new building to house its concrete works at Tomah, Wis. G. T. Richards, formerly superintendent of concrete work for the Burlington road, is in charge of the plant at Tomah.

John O. Shellenberger, representing the Acme Road Machinery Company, of Frankford, N. J., has sold to the Supervisors of Bedminister Township, Pa., a complete stone-crushing outfit, and expects to have it in operation soon.

The Noequa Stone Tile Company, of Jersey City, N. J., has been incorporated to manufacture artificial stone, ornamental tiling, and to do a building and contracting business with a capital stock of $500,000. The incorporators are A. K. Harroun, of New York City, F. D. Covey and E. P. Stout, of Jersey City, N. J.

A fine example of reinforced concrete construction is the West Philadelphia District High School, now in course of construction in that city. The cost of the structure will be $1,126,750.00.

WATERPROOFING WITH OIL.

(Continued from page 3.)

An experiment which illustrates the waterproofing properties of oil-mixed mortar under low pressure is pictured in Fig. 1. Two vessels, each made of mortar mixed in the proportions of one part of

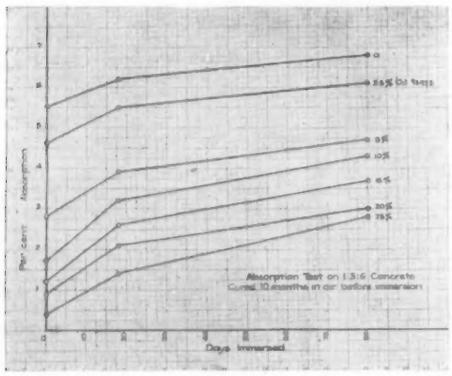


PLATE I.

cement to three parts of sand, were immersed in water to a depth of 5 cm. One vessel was made of mortar containing 10 per cent of oil, based on the weight of cement in the mixture, the other from ordinary untreated mortar. Both of these vessels were of the same size, the outside diameter being 8 inches and the thickness of walls and bottoms ½ inch. The vessel containing the oil admixture has remained absolutely dry on the inside during immersion for one year. The plain mortar vessel showed a damp spot on the bottom in about one minute after immersion. In one hour it was wet entirely through, even above the water line, and in a few days the leakage was so great that the water level on the inside coincided with that on the outside. After one year's immersion the oil-mixed mortar vessel has gained but 3 per cent in weight by absorption, while the plain vessel has gained 10.3 per cent. Other oil-mixed vessels of the same shape containing 5 and 20 per cent of oil in the mixture are likewise watertight. The behavior of vessels made to contain water is exactly similar, the plain vessels leaking, the oil-mixed mortar vessels remaining tight.

The effect of oil in decreasing the absorption of concrete is very plainly shown by the curves in Plate I.

The specimens used in this absorption test were cylinders 6 inches in diameter and 6 inches high. They were mixed in the proportions of one part of cement to three parts of sand, to six parts of stone, with varying percentages of oil. These specimens were 10 months old when immersed, and were cured in air. It will be noted how the absorption is decreased with the addition of oil. Apparently the decrease in absorption bears some relation to the per cent of oil in the mixture; the more oil added, the less the absorption. Oil 4923

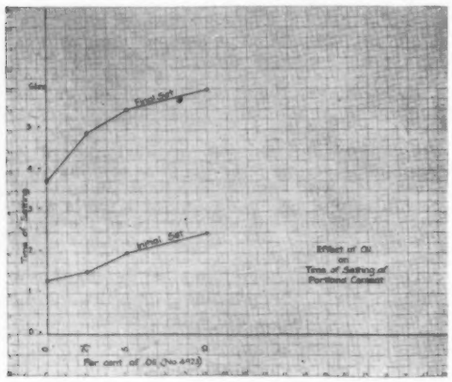


PLATE IV.

is one of the oils giving the best results in diminishing absorption, and is described by the specification previously quoted.

To investigate permeability, specimens 3 inches in thickness and 6 inches in diameter were molded with a surrounding watertight ring of 1:1 mortar. Before testing the top and bottom surfaces were chipped off in order to eliminate the waterproofing effect of the rich surface layers. Plain 1:3 mortar at the age of 28 days under 30 pounds' pressure became damp after half an hour. Under 40 pounds' pressure the leakage amounted to 146 cubic centimeters after 24 hours' application. Specimens containing 5 and 10 per cent of oil, No. 4923, remained perfectly tight under 40 pounds' pressure.

All permeability specimens made of gravel concrete and containing admixtures of oil have remained perfectly tight under 40 pounds per square inch pressure. Some of the plain gravel specimens made to compare with the oil-mixed specimens leaked, others remained tight. Broken stone concrete made with a very inferior grade of crushed gneiss is not perfectly watertight under pressure at early periods. After storing for one year, however, even this inferior grade of oil-mixed concrete gives indications of being much less permeable than plain concrete.

Service Waterproofing Tests.

In 1910 a vault 112 feet long by 18 feet wide was constructed in the U. S. Treasury Department. The side walls of this vault contain 10 per cent of oil based on the weight of cement in the mixture. The roof was made of ordinary reinforced concrete with about 3 inches of 10 per cent oil-mixed gravel concrete placed on top. The vault was subjected to several feet of head for a few months without showing signs of leaking. Another vault in the north end of the Treasury, on account of leaking, has never been available for storing anything of value. The roof of this vault was treated with oil-mixed concrete and is perfectly dry at the present time. A view of this roof taken during construction is shown in Figure 2. Numerous floors in the subbasement of the Treasury Department, and a floor in the Office of Public Roads have been constructed with a 10 per cent oil-concrete mixture, and have remained perfectly free from dampness.

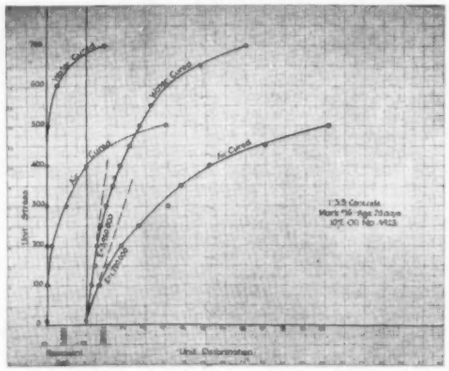


PLATE III.

A tank about 12 feet long and 4 feet wide by 4½ feet high constructed of 1:2:4 concrete containing a 10 per cent admixture of oil was built in the winter of 1910. It has been continuously full of water without showing any leakage.

A small tank was built by plastering a 10 per cent oil mixture of 1:3 mortar on ½ inch mesh expanded metal lath. The size of the tank was about 3 feet square by 2 feet deep, the thickness of walls being only 1 inch. This tank has been continuously full of water for nearly one year and has remained perfectly tight.

All of these tests, both service and laboratory, are indicative of the great benefit to be derived from the use of oil in mortar and concrete mixtures where damp-proofing is desired. When used in the construction of basement floors and walls, it is believed that oil-mixed concrete will prove perfectly effective in excluding moisture and the increased cost is almost inconsiderable. Many other uses for a non-absorbent concrete or mortar impermeable under low pressures will suggest themselves.

Strength of Oil-Mixed Mortar and Concrete.

A very complete series of strength tests were made on oil-mixed mortars and concretes containing various percentages of different kinds of oil. The absorption tests indicated increasing benefit with the addition of oil. However, since the benefit to be derived in decreased absorption was possibly offset by too great a loss of strength, this phase of the material was likewise investigated.

Compressive Strength.

The crushing strength of mortar and concrete is decreased by the addition of oil. As seen from the curve shown in Plate II for 1:3:6 concrete, the strength in general is decreased directly with the addition of oil. The strength of 1:3:6 concrete containing 5 per cent of oil is 85 per cent of the strength of the plain mixture at the age of one year. It will be seen that within the period of one year there is in general a gain in strength over that at 6 months or 28 days, again indicating that oil is not productive of disintegration within this period.

The strength of 1:3 mortar containing oil is somewhat smaller than that of plain mixtures,

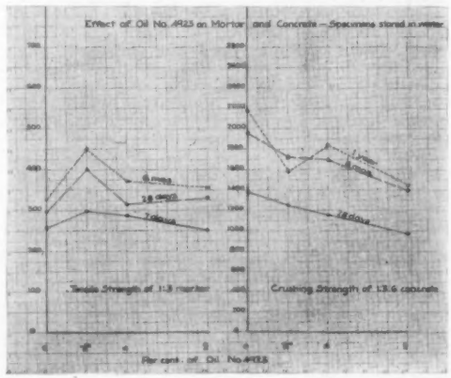

Effect of Oil No. 4923 on Mortar and Concrete—Specimens stored in water
Tensile Strength of 1:3 mortar
Crushing Strength of 1:3:6 concrete
Per cent. of Oil. No. 4923

PLATE II.

although mortar, like concrete, exhibits a gain in strength with time.

Concrete mixed in the proportions of 1:1½:4½ and 1:3:5 behaves very much like 1:3:6 concrete, the strength being decreased with the addition of oil. Considering the results o fthe absorption and compression tests together, it would seem that 10 per cent of oil based on the weight of the dry cement is as much as is advisable to incorporate in a concrete mixture for damp-proofing purposes, and 5 per cent is generally all that is required. More than 10 per cent, although slightly more effective in damp-proofing, at the same time is productive of too great a decrease in strength to warrant its use.

Tensile Strength.

The tensile strength of 1:3 mortar mixed with different percentages of oil, No. 4923, is given in the following table, and is likewise shown graphically on Plate II:

Tensile Strength of 1:3 Mortar.

Per Cent of Oil.	7 Days.	28 Days.	6 Months.
0	256	296	326
2½	297	400	449
5	287	316	372
10	252	331	360

Although experiments have been made on a number of oils in mortar mixtures, but one series of tests is shown in the curves, since the general results with the other oils tested are not widely different from these. The addition of oil to 1:3 mixtures seems to benefit the tensile strength when the amount of oil added does not exceed 10 per cent of the weight of cement. The tests, so far as they have been conducted, indicate that oil has no tendency to cause disintegration of the mortar. There is a very substantial increase in strength at six months over that at seven days.

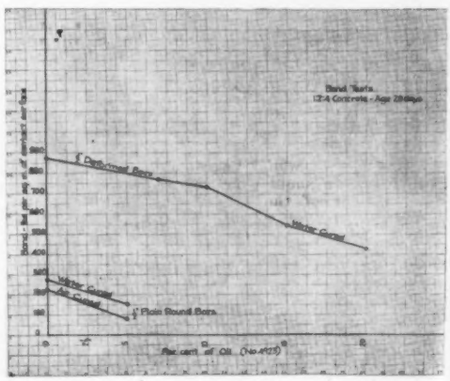


PLATE V.

Other investigators have shown that mixtures in the proportion of 1:4 and 1:5 are stronger in tension when containing admixtures of oil than plain mixtures by about 50 per cent.

Modulus of Elasticity.

The stiffness of concrete containing admixtures of mineral oil seems to be unaffected. Oil-mixed concrete containing oil in amounts up to 10 per cent based on the weight of cement is just as stiff as ordinary concrete. A typical stress deformation

with those of the air cured specimen, showing that the same precaution should be used in keeping oil-mixed concrete damp while curing, that is exercised in the case of ordinary concrete.

Time of Setting.

As would be supposed, oil delays the setting time of concrete, the more oil that is added the longer is the time consumed in setting. Curve IV shows the effect of oil on the time of setting of neat cement, tested with Gilmore needles. The initial set is delayed by 90 per cent, the final set by 60 per cent when there is 10 per cent of oil added to the cement. Other mineral oils have much the same effect as oil No. 4923, the time of set being delayed with the addition of oil. During the initial stages of the setting process, oil concrete gains strength more slowly than ordinary concrete, a fact of importance in the removal of forms. It would seem advisable to allow the forms to remain standing for a longer time when confining oil-mixed concrete than when containing ordinary concrete.

Bond Tests.

There are constructions such as basement walls, shallow tanks, roof slabs, etc., where oil-mixed concrete with steel reinforcement might be used to advantage. Investigations were therefore conducted on the bond strength of plain and deformed reinforcing metal when used in oil-mixed concrete. The results of these tests are plotted in Plate V. It will be seen that the bond strength of plain bars is greatly decreased by the addition of oil so that it would not be advisable to use plain reinforcement with oil-mixed concrete. Deformed bars, however, have good adhesion to oil-mixtures of concrete, and may be used as in plain concrete with but slightly decreased factor of safety. Wire mesh and all reinforcement not depending on pure adhesion for its bond should give as good satisfaction as deformed bar reinforcement in all concrete mixtures.

There are many applications for an inexpensive and effective waterproofer for concrete and mortar. The use of mineral oil residuum for this purpose seems to solve the waterproofing problem for a great many constructions. Mineral oil residuum are comparatively cheap and are easily combined with the concrete mixture. A uniform combination is readily made simply by mixing the ingredients until the oil disappears. Because of the uniformity of the distribution of the waterproofing agent, oil-mixed concrete is just as thoroughly effective in resisting absorption in one spot as in another.

Although the process of mixing oil with Portland cement concretes and hydraulic cements giving an alkaline reaction, has been patented, anyone is entirely free to use this method without the payment of royalties, the patent having been donated to the public.

CONCRETE STREET IN CHICAGO.

The Chicago Portland Cement Co., through their advertising manager, Robert Crawford, issued a bulletin recently, which contained a reproduction of a photograph of Emerald avenue from Seventy-third to Seventy-fifth streets, Chicago, which was paved with concrete, using their cement.

Speaking of this pavement in their publication, they say: "This pavement is representative of this type and from the illustration it will be seen to be still in good condition after three years of use. The ground was excavated to a depth of 8 inches and on the natural sand base was placed, in blocks measuring 8x30 feet, a layer of concrete 6 inches thick, mixed in the proportion of one par 'Chicago AA' Portland cement, three parts torpedo sand and six parts crushed stone. On top of this a layer 2 inches thick, mixed in the proportion of two parts 'Chicago AA' Portland cement to one and one-half parts torpedo sand and one and one-half parts crushed granite, corrugated in brick fashion, 4½x9 inches, provides the wearing surface.

"The cost of laying this pavement was comparatively low—$1.50 per square yard—when it is considered that the following prices were paid for material and labor:

'Chicago AA' Portland Cement, per barrel	$1.30
Torpedo sand, per cubic yard	1.60
Crushed stone, per cubic yard	1.50
Crushed granite, per cubic yard	3.75
Common labor, per day (8 hours)	3.00

"The particular advantages of concrete as a paving material are amply demonstrated in this particular piece of work. Besides its sanitary and wearing features, this pavement is less slippery than brick and residents in the neighborhood maintain that it is noiseless. Its near approach to the ideal pavement brings contractors, engineers and others interested in highway construction to inspect it annually, and so popular has it become locally that there is a strong demand for similar paving in other parts of the city. The Illinois Portland Cement Paving Co. of Chicago were the contractors and 'Chicago AA' Portland cement was used throughout."

EMERALD AVENUE FROM 73RD TO 75TH STREET, CHICAGO.

The Federal Combination Fence Company, of Chicago, Ill., has been incorporated with a capital stock of $2,500 to manufacture and deal in fence made of concrete, steel and wire. The incorporators are Park Phipps, John L. Bolen and George Girling.

Manufacturing and dealing in concrete products is one of the objects of the Illinois Sheet Metal Company, of Milford, Ill., which has been incorporated with a capital stock of $50,000. The incorporators are J. A. Muriett, G. F. Patterson and T. C. Herron.

William Hoffman, Jr., the well-known concrete contractor of Jacksonville, Ill., and Mrs. Julia Kennedy were married February 3.

Concrete will play a large part in the work of the Driscoll-McCalman Company, of Decatur, Ill., which has been granted a charter by the secretary of state to do a general construction and engineering business. The incorporators of the concern, which will have a capital stock of $25,000, are Orlando Overstake, Ralph McCalman and Jeremiah Driscoll.

The Concrete Roofing Tile Company, of St. Louis, Mo., has been incorporated with capital stock of $5,000. The incorporators are P. E. Briscol, W. M. Conway and B. N. Brown.

The Wilson Concrete Company, of Dyer county, Tennessee, has been incorporated with capital stock of $5,000. The incorporators are W. G. and Pearl Burks, H. C. Wilson, X. C. Simpson and W. R. Aldrich.

The Concrete Construction Company, of Kansas City, Mo., has been incorporated with capital stock of $10,000. The incorporators are A. W. Graham, C. A. Muhlebach and H. B. Thompson.

The Marysville Cement Tile Roofing Company has been incorporated at Marysville, Ohio, with a capital stock of $10,000.00. The incorporators were George M. Wilber and others.

EVOLUTION IN BELTING.

Users of belting are fast coming to a realization of the fact that some substitute must be found for leather belting. This condition has been brought about by the continued increased cost of leather, and by the fact that leather is not suitable for every use to which belting is put. Only with great expense can leather be waterproofed; there is no cement that will bind the laps when exposed to great heat.

Most substitutes for leather belting, even though they have not all the drawbacks of leather, still have their own peculiar points of weakness. Of the substitutes offered, rubber has the objection of great expense; the weakness of vulcanizing when exposed to heat; and of deterioration when exposed to oils. Stitched canvas belting is only as strong as the weakest stitch which binds the piles together.

It remained for the American Fabric Belting Company, of Cleveland, Ohio, to manufacture a solid woven belt, which has overcome these weaknesses. Nestor, the trade name by which this belt is known, is a very closely and evenly woven belt, which runs as true as an arrow. It is so treated that it is practically unaffected by surrounding conditions, atmospheric changes, great heat, cold, oils, steam, water, dilute acids, dirt, grit, etc. Its surface is such that it clings to the pulley, without the use of dressing, and may be run slack without slipping, which fact means great saving in wear and tear on machinery. In the process of manufacture, Nestor is stretched and set so that when put on the pulleys there remains but little stretch to be taken out. It will not shrink, even under the most severe conditions; and remains pliable and flexible at all times. Being solid woven, Nestor has not the weakness of a ply belt; it has no stitches to break; no plies to come apart.

There is no one belt that is the best belt for every purpose; Nestor is no exception to that rule. For use on flanged or cone pulleys, Nestor is not recommended; but for drives and general transmission purposes, elevators and conveyors, it has proven by long and severe tests to be of remarkable value. For bucket elevator use, there are instances where Nestor has been in service for years without a shut down for repairs or to take out stretch. Nestor is running seasons where replaced leather lasted only weeks. These and other facts of actual service prove it to be a belt in which every user of belting should be interested.

We have received from Wolfe & Misner a copy of their little booklet showing the many uses of their plaster, known to the trade as "Monument Plaster," of which Wolfe & Misner are the selling agents, located in the Essex Building, Newark, N. J. They are the sole distributors of Oriental stucco and interior color finishes. In making preparation for the lines to be handled during the year, the dealer ought to have this book in his possession and study its contents so that he will be able to recommend special materials to contractors on interior finishes; plaster that is already prepared in various tints, so that the ordinary artisan will be able to apply them, to make a good job.

The book contains pictures of a large number of houses on which Oriental stucco has been used, and a copy of it ought to be on every dealer's desk.

We have received a copy of the Engineering Directory for 1912, fully up to the standard established during its nineteen years of publication. It is leather bound, measures 4 x 6¾ inches, contains 1,496 pages, a complete cross index, and thumb indexes to the fifteen sections of the book. In the classified section, manufacturers' products are found under 3,850 classifications. For those who are looking for a reliable mailing list to use in their 1912 sales campaign, attention is called to the following lists: Jobbers of mill supplies, jobbers of plumbing and heating supplies, dealers in plumbing, steam and mill supplies in Canada; jobbers of hardware, jobbers of electrical supplies, list of manufacturers' agents, alphabetical list of manufacturers of plumbing, heating and mill supplies; same manufacturers classified according to their products; railway purchasing agents, leading architects in the United States, electric light and power plants, gas companies; waterworks, trade associations and cross index to manufactured products.

The Ricketson Mineral Paint Works, Milwaukee, Wis., gives some sage advice to its friends on a little card it issued, saying, "Don't throw bricks at your friend—because you like him; or at your competitor—because it merely advertises him." This institution is making steady progress with its "red brick" brand of colors. The card itself is shaped like a brick. Everybody will agree that it is no time for anybody to throw brick, but to live and let live and handle Ricketson's paint.

One of the recent artistic catalogues is that of Howells Mining Drills, sent out by the company from Plymouth, Pa. It is without question the best publication of the kind that has come to our notice. It contains illustrations of all the various types of drills manufactured by this company, and also shows how they are used in actual practice. A copy of it ought to be in the hands of every quarryman on account of the information it contains.

Our good friend, John Harper Bonnell, 501 Fifth avenue, New York, N. Y., received at the show many compliments for his Iris Porphyry aggregate. He had samples to show the beautiful effects of it and they attracted much attention. He is trying to interest capital so as to push this aggregate in conjunction with its use for polished columns, bases, etc. Without question it produces the most harmonious color scheme when used with cement that has been observed for some time. Its development is along the line of the artistic in cement work and ought to be encouraged; in fact, it is one of the new things that should receive the attention of men who are interested in cement development.

We have official announcement of the meeting of the Wisconsin Retail Lumber Dealers' Association, which is in session at Milwaukee, Wis., as we go to press. The programme covers three days, February 20, 21 and 22. In addition to the discussion of a large number of subjects of interest to the trade, there are a number of entertainment features for the ladies and a large meeting is anticipated. The headquarters are at the Hotel Pfister.

CLASSIFIED ADVERTISEMENTS

Advertisements will be inserted in this section at the following rates:

For one insertion.....25 cents a line
For two insertions.....45 cents a line
For three insertions.....60 cents a line

Eight words of ordinary length make one line.
Heading counts as two lines.
No display except the headings can be admitted.

Remittances should accompany the order. No extra charges for copy of paper containing the advertisement.

EMPLOYEES WANTED

WANTED.

If you are in need of or wish to sell anything which comes under any of these classifications, write us. If you have something not coming under these classifications we will create one for you.

ENGINEER AND FOREMAN.

Wanted—An engineer capable of running an engine and large air compressor in lime stone quarry works; also foreman in same works.
Address C. WORLOCK, Canastota, N. Y.

AN EXPERIENCED MAN

Wanted—To take charge of a 5 kiln lime plant with crusher. Must be strictly temperate and one who can handle men. State experience and salary expected.
Address 829, care ROCK PRODUCTS.

GOOD POWDER MAN.

Wanted—For Rock Crushing Plant. Steady employment and good wages to the right man. References required. Address 827, care ROCK PRODUCTS.

EMPLOYMENT WANTED

POSITION AS FOREMAN.

Position wanted as superintendent or foreman of lime works, by a hustler of fifteen years' experience, capable of taking full charge of plant, including quarry, and can be depended on at all times to keep things up to the minute, and in working order. Can furnish best of references from former employers and produce results. I am thoroughly familiar with Gas Producer and direct fire kilns. Also Hydrate Mill and Stone Crusher.
Address "RESULTS," care ROCK PRODUCTS.

SUPERINTENDENT.

Wanted—Position as quarry superintendent; experienced in Steam Shovel, and all kinds of quarry operation. Thoroughly competent in the clerical end as well as practical. Address 832, care ROCK PRODUCTS.

POSITION SUPERINTENDENT.

Wanted for quarry and crushing or lime plant. Fifteen years' experience in both branches; understands machinery and kiln construction; permanent desired. Best references furnished. Address 831 care ROCK PRODUCTS.

FOREMAN OR SUPERINTENDENT.

Foreman or Superintendent wanted, charge of stone crushing plant. Thoroughly acquainted with hydraulic stripping, steam shovel, drilling, blasting and handling men. Fifteen years' experience. Best of references furnished. Address 830 care ROCK PRODUCTS.

SUPERINTENDENT.

Wanted, position as superintendent or engineer in gypsum plaster mill. Fifteen years' experience and thoroughly understands the details of manufacturing plaster. Can furnish best of references as to character and ability.
Address CHAS. VERNIAUD,
R. F. D. 30, Eagle, Mich.

MATERIAL FOR SALE

MOLDS.

For Sale—Four 3-deck block or brick cars, one set Ohio Post Molds, one set D. & A. Post Molds, one Mold for Automatic Sealing Vault.
Address T. C., care ROCK PRODUCTS.

THE BEAL CORE DRILL.

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Write To-day for Further Information

BARRETT MANUFACTURING COMPANY

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AUSTIN GYRATORY CRUSHER

The World's leading rock and ore breaker.

The only self lubricating Crusher.

The only Crusher having double countershaft bearing.

Simple construction, correct design.

Thousands in use.

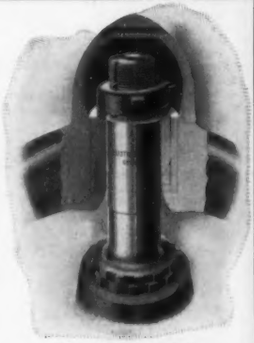
Plans and specifications furnished for any sized plant.

Send for Catalogue No. 17.

All experienced users recognize that the efficiency and durability of the suspension bearing as applied to Gyratory Crushers, depends upon locating the bearing at the point of least gyration or movement of the main shaft.

A perfect suspension can be made only by locating the bearing at the point where there is no movement of the shaft. That being a mechanical impossibility it follows that superiority is obtained in fixing the bearing at the point of least gyration of the shaft.

As the accompanying cut will show, the movement of the shaft at the point of suspension in the Austin Crusher is reduced to the minimum and practically eliminated. Consequently the highest possible degree of efficiency and durability is obtained.



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New York City Office
1682 FULTON BUILDING
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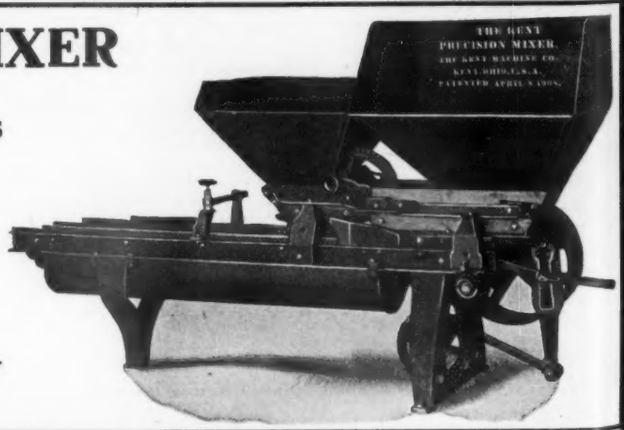
THE "KENT" PRECISION MIXER

(STATIONARY TYPE)

Built in Four Sizes and Suited to ALL CLASSES of Plants Making Concrete Products

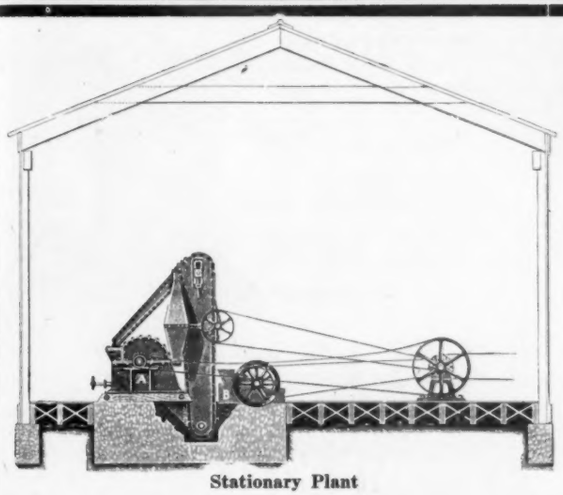
The **"Kent"** is the **only mixer made** that will operate with **absolute certainty** when being charged by **gravity** from bins above the hoppers holding large quantities of materials, making it possible to run it continuously for hours at a time with little or no attention from the operator. It has a patented adjusting lever by which the output may be regulated to suit the work in hand. It measures the aggregates accurately in any proportions desired by simply adjusting the gates to the proportions wanted. Before purchasing a mixer investigate the **"Kent."** It means **money** and **satisfaction** for you.

Catalog mailed on request.



THE KENT MACHINE COMPANY

306 NORTH WATER ST., KENT, OHIO



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GRIND YOUR LIMESTONE SCREENINGS AND MAKE LIMESTONE FERTILIZER

What Is Now a Dead Loss to Some Quarrymen
Can Be Turned Into Good Profits

WE FURNISH COMPLETE PLANTS OF ANY CAPACITY DESIRED

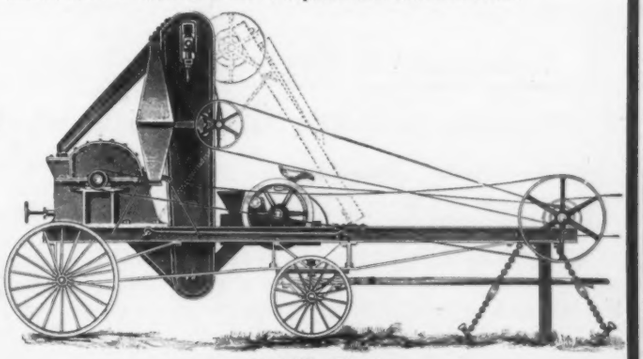
Manufactured and Licensed under 87 Separate and Distinct Patents

We now have over 30 plants in operation

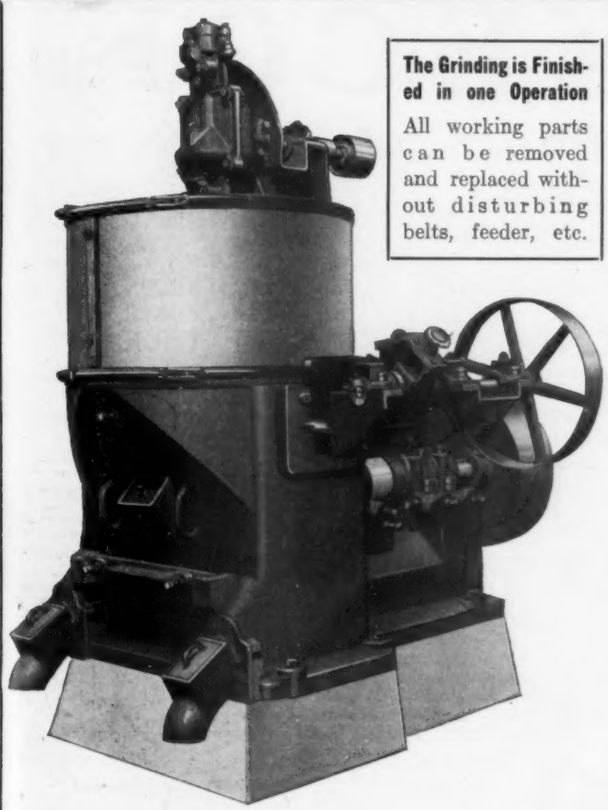
BULLETIN NO. 4 EXPLAINS THE PROPOSITION

The Williams Pat. Crusher & Pulv. Co.

ST. LOUI 2705 N. Broadway
CHICAGO: Old Colony Bldg.
SAN FRANCISCO: 428 Monadnock Bldg.



Portable Plant



The Grinding is Finished in one Operation

All working parts can be removed and replaced without disturbing belts, feeder, etc.

BONNOT PULVERIZER

Grinds and Screens Limestone, Raw Lime and Hydrated Lime

Does it at One Operation. Gives You Any Desired Fineness

GRINDING LIME IS LARGELY A SCREENING PROPOSITION. THE BONNOT PULVERIZER HAS THE LARGEST SCREENING SURFACE AND CONSEQUENTLY THE GREATEST CAPACITY.

NO OTHER MACHINE LIKE IT IN THE ACCESSIBILITY OF SCREEN AND GRINDING PARTS.

No. 4 Catalog Explains These Advantages

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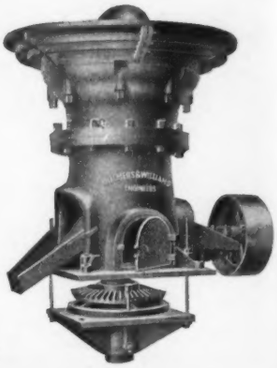
909 N. Y. Life Bldg.
KANSAS CITY, MO.

CANTON, OHIO

Contractors and Quarrymen
INVESTIGATE

We can furnish proof of the operation of this design of Gyratory Crusher, some of these machines having been in continuous operation for a period of two years and without costing one cent for repairs.

Do You Know of Any Other Crusher With This Record?

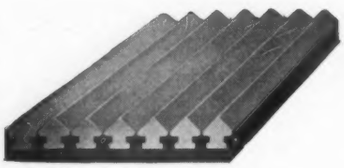


CHALMERS & WILLIAMS, Inc.

General Office and Works, Chicago Heights, Ill. New York Office, Singer Building

A Tempered Steel Jaw Plate for Blake Type Crushers

CHROME STEEL WORKS
CHROME . N.J..U.S.A.
(FORMERLY OF BROOKLYN, N.Y.)



Canda Tempered Steel Crusher Jaw Plate

Patented March 31, 1908

¶ The Canda Tempered Steel Jaw Plate for Blake Crushers is composed of Forged and Rolled Chrome Steel Bars, cast-welded and also mechanically interlocked into a backing of tough steel—and the wearing face is tempered to extreme hardness. We are equipped to supply both corrugated and smooth face plates for all sizes and makes of Blake Crushers.

¶ The Canda method of cast-welding forged and tempered steel bars into a mild and tough Steel Backing, is adapted also to the construction of Cone Heads for Gyratory Crushers, Segments for Corrugated Rolls, etc., etc.

¶ Our products in this line are sold with our special guarantee that they *will wear longer, give better satisfaction and, at our price, prove more economical than any others now on the market.*

— Send for Descriptive Pamphlet —

Represented by

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Means MAXimum of ECONomy

Years of experience with the assistance of our hundreds of customers has found THE SOLUTION OF GRINDING HARD MATERIALS. The MAXECON PULVERIZER combines highest EFFICIENCY, greatest DURABILITY and assured RELIABILITY. Uses the LEAST HORSE POWER per capacity. Embodies the features of our Kent Mill with improvements that make it MAXECON.

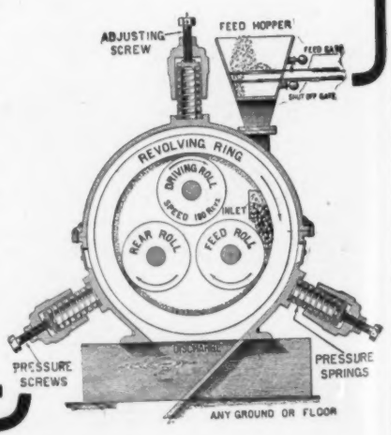
WE DO NOT CLAIM ALL of the CREDIT for this achievement

We have enjoyed the valuable suggestions of the engineers of the Universal Portland Cement Co. (U. S. Steel Corp.), Sandusky P. C. Co., Chicago Portland C. Co., Marquette Cement Mfg. Co., Western P. C. Co., Cowham Engineering Co., Ironton P. C. Co., Alpena P. C. Co. Castalia P. C. Co., Pennsylvania P. C. Co., and many other patrons.

THE RING WOBBLES

The FREE WOBBLING POUNDING RING instantly and automatically ADAPTS its position to the variations of work.

Its GRINDING ACTION is DIFFERENT than any other; besides the STRAIGHT rolling action of the rolls, the SIDE to SIDE motion of the ring makes the material subject to TWO crushing forces and DOUBLE OUTPUT results.



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LONDON, W. C., 31 HIGH HOLBORN
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SOLID WOVEN WATER PROOF BELTING

Clings to the Pulleys
Runs Slack Without Slipping
Transmits More Power
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Requires No Belt Dressing

Agents in All Principal Cities. Kindly Mention This Paper

THE AMERICAN FABRIC BELTING CO.
CLEVELAND, OHIO

Three Identifying Marks
One Green Edge and the Trade Mark
Shown Above with the Band
"THE GANDY BELT"

Every genuine GANDY BELT has these three identifying marks to protect you against the many inferior imitaions.

THE GANDY BELT
is made by the oldest and largest manufacturers of stitched cotton duck belting in the world. The Standard Cotton Duck Belt for 36 years. Costs only one-third as much as leather, and two-thirds as much as rubber. Does the work equally as well.

REMEMBER
There is only one GANDY BELT, made by the Gandy Belting Company of Baltimore, Md.

Send for sample and prices today.

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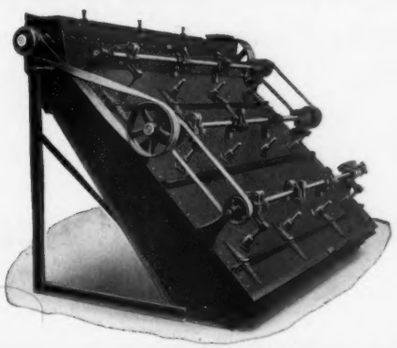

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from 4 to 200 mesh.
Less than 1 H. P. to operate. Large Output.

More in use than any other Screen.
From 1 to 78 used by single concerns.

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If not satisfactory, even to the color of the paint, may be returned, as per our special "Sale or Return" offer.
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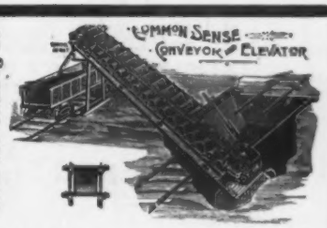

THE GENERAL CRUSHED STONE CO.,
So. Bethlehem, Pennsylvania,
have been using one of our Common Sense Elevators for six years—capacity 400 tons an hour.

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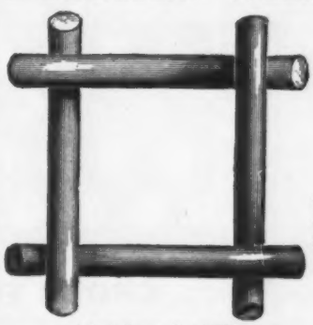

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Wire Cloth
From the coarsest to the finest, for all purposes,
Also
WIRE CONCRETE REINFORCEMENT, WIRE WORK of all kinds, CORRUGATED WIRE "LATHING"

1-Inch Space, No. 4 Wire

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Resists wear and is best for severe service.

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will show better results when you specify
TISCO
Let Us Tell You of Actual and Conclusive Tests

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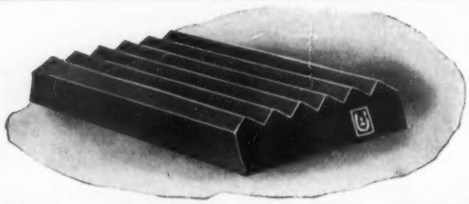

TITAN MANGANESE STEEL
Unequaled for wearing parts of Jaw Crushers, Gyratory Crushers, Cement Machinery, Coal Breaking Machinery, Steam Shovels and Dredges. *Send us your inquiries.*

TITAN STEEL CASTING CO.
NEWARK, NEW JERSEY
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TRUE MANGANESE STEEL CASTINGS
Wear Longer
Withstand Shock Better
FOR WEARING PARTS OF:
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AMERICAN STEEL FOUNDRIES
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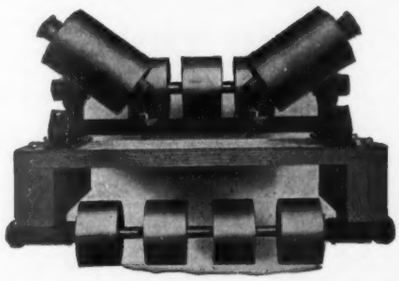
IMPROVED
BELT CONVEYORS



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The above design of **Belt Concentrator** has been found entirely satisfactory in every kind of service. It troughs the belt and at the same time provides proper support where most needed to sustain the weight of material being carried.

The Lubricating arrangement is convenient and thorough and the use of grease for lubrication provides not only the best means of lubricating the pulleys but also has the effect of keeping the bearing surfaces clean and providing a dust-seal around the ends of the pulley hubs.

For other Belt Conveyor devices see our
CATALOG No. 34

We manufacture **Helicoid** and **Screw Conveyors, Chain** and **Cable Conveyors** for handling Rock, Lime, Sand, etc., also **Elevators, Shafting, Couplings, Bearings, Collars, Pulleys, Gears, Sprocket Wheels, Elevator Bolts, etc.**

H. W. CALDWELL & SON CO.
CHICAGO: Western Avenue, 17th to 18th Sts.
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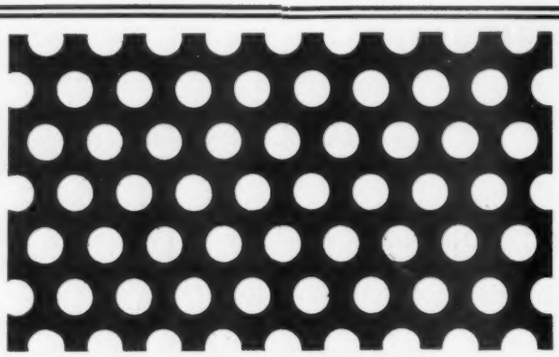
Want A Position?
Use Our Classified Section
SEE PAGE 69

PERFORATED METALS

Our Perforated Products have a reputation for accuracy and general high quality, our deliveries are prompt, and prices the lowest. This is why we number among our customers so many of the largest users of Perforated Metals throughout the United States.

WE SOLICIT YOUR INQUIRIES



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CARBONDALE, PA.

SCREENS
OF EVERY DESCRIPTION
FOR
STONE GRAVEL CEMENT
COAL COKE
ETC, ETC.

SPECIALTIES
MONEL METAL
MANGANESE BRONZE

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Gravel Washing Equipment

We are prepared to furnish Machinery Equipments for the efficient and economical handling of crushed stone and gravel, including Belt Conveyors, Open-top Carriers, Screens, Continuous Bucket Elevators, etc.

3-Pulley Type Belt Conveyor

The "Link Belt" Belt Conveyor

Shown in the illustration carries crushed rock from quarry and delivers to a "Link-Belt" Continuous Bucket Elevator, which in turn delivers to bin.

Let Us Figure On Your Requirements

Our Engineers have had broad experience in designing elevating and conveying machinery for handling materials of every description — the benefit of their knowledge is at your service.

Write for General Catalog No. 90-R. P.

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For Gallagher Bros. Sand and Gravel Co. Port Washington, L. I. Capacity 3,000 Yards Per Day

For Supplying Washed Sand and Gravel for Some of the Largest Construction Contracts in New York and Vicinity.

Twelve screens are used, each 4 ft. in diameter by 16 ft. long, fed by two 24-in. belt conveyors, all driven by rope drive from 100-h. p. engine and by heavy riveted chain drives over steel sprockets. This entire equipment was designed and installed by Webster.

Send us your specifications and let us figure on your work. Write our nearest office.

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Stone Crushing Cement and Power Plants

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FARREL ORE AND ROCK CRUSHER

USED IN ALL PARTS OF THE WORLD—LARGE RECEIVING CAPACITY—SPECIALLY DESIGNED AND CONSTRUCTED FOR HARDEST KIND OF WORK

COMPLETE CRUSHING PLANTS OUR SPECIALTY

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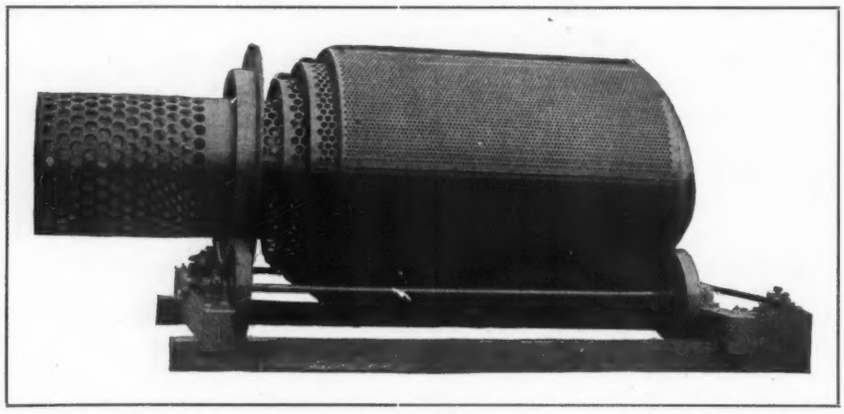

made solely by **Johnston & Chapman,** is the

ONLY SCREEN

on the market for wide-awake quarry-men and miners, who want to separate crushed granite, limestone or other minerals, gravel, sand, coal or coke. It will soon earn its cost in saving of repairs, and maintenance, and reduced power, and will do more and cleaner work than any other cylindrical screen of like area. No one can afford to keep old traps in use when the **O'Laughlin** installed

NOW

will from the moment it starts give a better and larger product, and a big interest on your investement in continuous saving in cost of repairs, renewals, and power. For particulars address:

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Corner Francisco and Carroll Ave., Chicago, Ill.

Perforaters of Sheet Metals, Flat, Cylindrical, and Conical Perforated Screen Plates for Quarries, Mines, Reduction Works, Mills and all Industrial Purposes.

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If you are interested in

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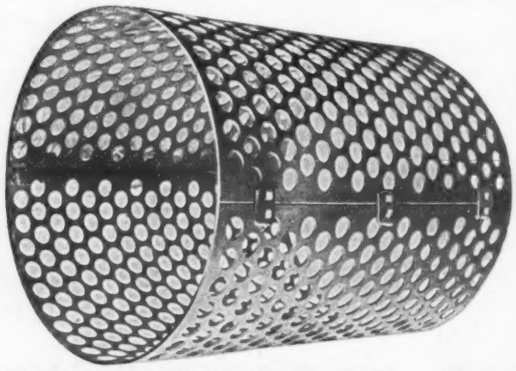
Have Tried All the Rest, Why Not Try the Best?

Let us supply you with **our screens,** which are made from a **special Hard Steel,** especially adapted for **stone, ore, gravel, sand, etc.**



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PRICE, MATERIAL and DELIVERIES Are Right

Revolving Screens, Suspension Screens
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If you don't see the screen you are looking for here, ask for it. We make it.

We Solicit Your Inquiries

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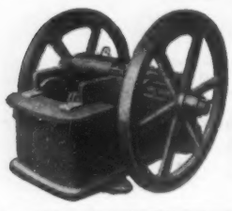

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Builders of heavy duty crushers and glass sand machinery. Glass sand plants equipped complete.

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Cement Making Machinery

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For Limestone, Phosphate Rock, Cinder, Etc.

CAPACITIES FROM 10 TO 500 TONS PER HOUR

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WE ALSO MANUFACTURE Double log washers, Ore jigs, Screens, All iron Elevators and Conveyors. Write for catalogue.

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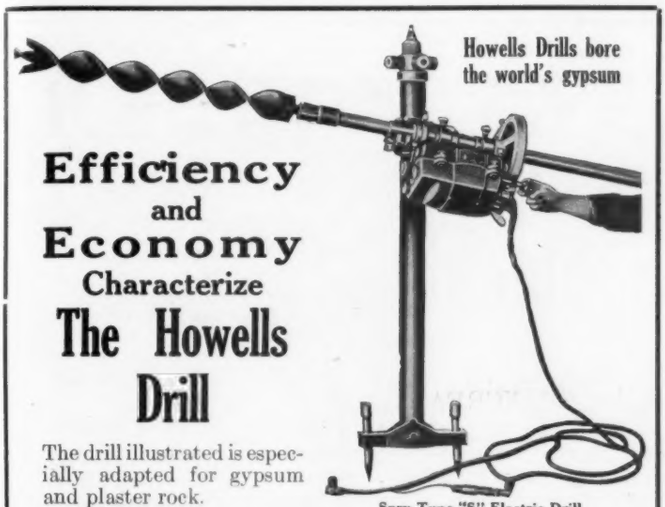

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Efficiency and Economy Characterize The Howells Drill

The drill illustrated is especially adapted for gypsum and plaster rock.

Spry Type "S" Electric Drill.

We manufacture over 50 Types of drills for every conceivable condition. All drills whether hand, compressed air or electricity are all of the rotary augur type and are capable of drilling any rock which a steel augur will penetrate. Will bore holes up to six inches in diameter and any reasonable depth.

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If the Dolese & Shepard Company of Chicago found it profitable to discard the other machines and buy Cyclones you can save more than half the expense by buying Cyclone drills right from the start.

Why spend money experimenting when the other fellow has done that? We guarantee to drill more holes at less expense than any other drilling machine on the market. If you want us to prove it, just ask our competitors to meet us in your quarry.

THE CYCLONE QUARRY DRILL COMPANY

New York Office, 50 Church St.
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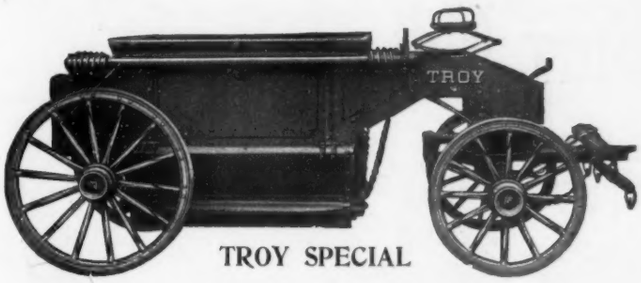
ORRVILLE, OHIO

The New Year Chuckle



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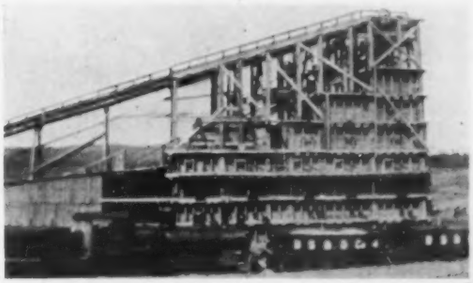
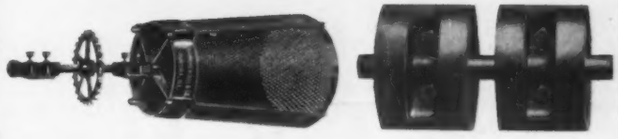
GRAVEL WASHING PLANTS

DURING 1911 THAN ANY OTHER COMPANY

WE MADE GOOD ON ALL

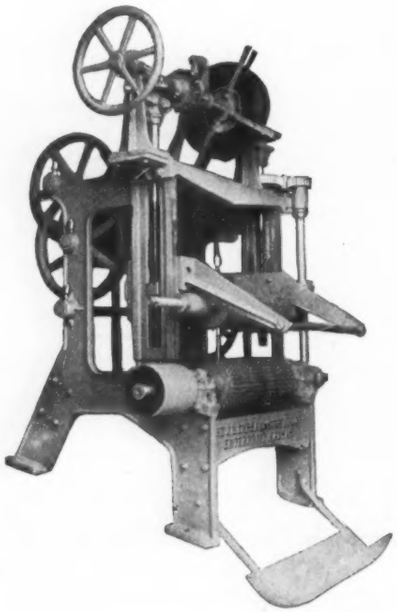




WRITE AND FIND HOW ATTRACTIVE AND REASONABLE WE MAKE OUR PROPOSITIONS

RAYMOND W. DULL & COMPANY

AURORA - - ILLINOIS



Points of Interest Concerning

The Ehrsam Wood Fibre Machine

The log feeds itself to the saw. As the log decreases in diameter the Speed of the log and of the feed INCREASES AUTOMATICALLY.
In other words, the Peripheral Speed remains constant.
The feed of the log to the saw is in direct proportion to the speed of the log.
This automatic uniformity of feed INSURES UNIFORMITY of FINENESS in the PRODUCT.
No frictional devices are used, none being necessary.
All the working parts are planed. All of the gears are cut from solid steel.
All of the parts are interchangeable and numbered, so that duplicate parts can be quickly obtained and easily put in position
The Saw mandril is extra heavy and made of the best crucible steel.
The journals are chain oiling. No machine can be more substantially built. Write for full information.

Okeene, Okla., June 14, 1911.

J. B. Ehrsam & Sons, Enterprise, Kans.,
Gentlemen:—Some time ago I received a letter from you asking how the wood fibre machine you shipped us is doing. Will say it is the best I ever used. In regard to any suggestions I could make as to how it might be improved, will say that I can make none, as it is O. K. Yours truly,
SOUTHWEST CEMENT PLASTER CO.,
Frank Dodge, Sup't.

Manufacturers of Jaw and Rotary Crushers for Gypsum, Vibrating Screens, Hair Pickers, Wood Fibre Machines, Calcining Kettles, Plaster Mixers, Power Transmission

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The Enterprise Vertical Burr Mill

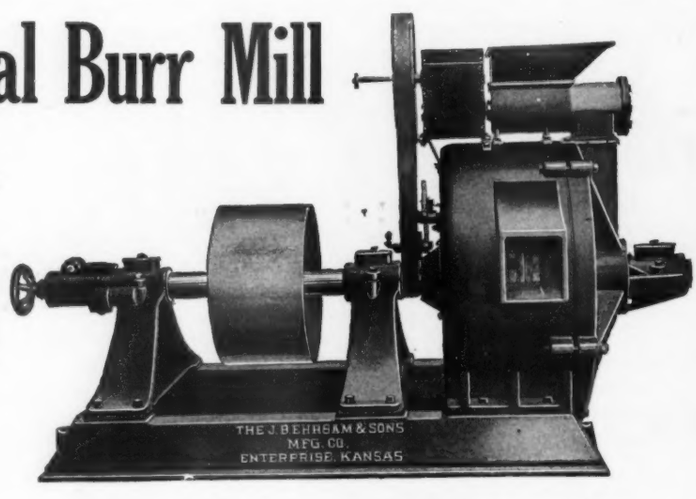
is especially designed for grinding gypsum, limestone, coal, coke, paint, rock, foundry facing, carbon, salt, and other similar substances.

It is STRONG and DURABLY built.

Has INTERCHANGEABLE STONES, which can be easily removed for dressing and replaced.

Is provided with our POSITIVE CONTROLLABLE FEEDER, which feeds an absolutely uniform stream into the mill at the required capacity.

MANY OTHER ADVANTAGES.

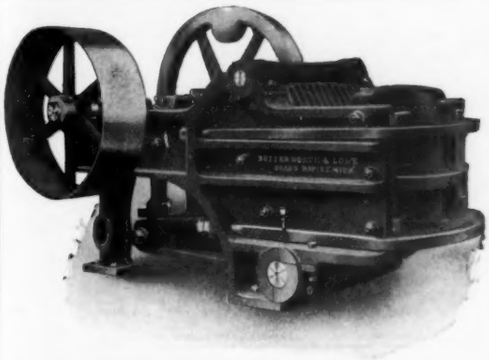


The J. B. Ehrsam & Sons Mfg. Co.

Designers and Builders of

Complete Equipment for Plaster Mills

ENTERPRISE, KANSAS, U. S. A.



Nippers—17 x 19", 18 x 26", 20 x 30" and 24 x 36".

Jaw and Rotary CRUSHERS

For all Rocks and Ores Softer than Granite

GYPSUM MACHINERY—We design modern Plaster Mills and make all necessary Machinery, including Kettles, Nippers, Crackers, Buhrs, Screens, Elevators, Shafting, etc.

Special Crusher-Grinders for Lime

Butterworth & Lowe
17 Huron Street, Grand Rapids, Mich.

Crackers—5 sizes—many variations.

GET THE BEST

Finest Line of Gypsum Machinery MADE

KETTLE CRUSHER NIPPERS

ASK FOR CATALOG OF

MOGUL NIPPERS. OPEN DOOR POT CRUSHERS

Best Mills in the United States Have Them

McDONNELL BOILER & IRON WORKS, Des Moines, Iowa, U. S. A.
"Formerly Des Moines Mfg. & Supply Co."

KING'S WINDSOR CEMENT
FOR PLASTERING WALLS AND CEILINGS

Buffalo Branch, CHAS. C. CALKINS, Manager
322 W. Genessee Street.

Not the hardest, but the toughest and best Wall Plaster made—Can be applied with less labor. Has greater covering capacity than any other similar material

J. B. KING & CO., 17 State Street, New York.

The Daily Rock Products
AT THE CHICAGO CEMENT SHOW

Affords the greatest opportunity ever offered to reach the building material industry

Advertisements now being contracted for in two or three colors on special enameled paper. Write at once for special prices and full particulars.

ROCK PRODUCTS 537 South Dearborn St. CHICAGO, ILLINOIS

Dailies will also be issued at the Kansas City Cement Show and National Association of Cement Users Convention

RICKETSON'S MORTAR COLORS

YOU CAN'T FADE 'EM

There's one "best" in every line, but that is not always best for everyone concerned. In the building trades

Ricketson's Mineral COLORS

are acknowledged to be the best choice for *everybody*. Best for the architect because purest. Best for the contractor because they go farther. Best for the owner because they never change their color.

For Mortar, Brick, Cement, Stone, Etc.
Red, Brown, Buff, Purple and Black

RICKETSON MINERAL PAINT WORKS MILWAUKEE, WIS.

Whenever You Wish to

Sell Your Stock, to Dispose of Your Old Machinery, Wish an Employee, or Want a Position,

REMEMBER that ROCK PRODUCTS can do this for you promptly.

Tell 'em you saw it in ROCK PRODUCTS

THE
VALVE BAG

The neatest and best package for handling your *cement, lime, plaster, alca, ground stone, etc.*

THE
VALVE BAGGER

A device unequalled for sacking these products. *Your inquiries will have our prompt attention.*

The
Urschel-Bates Valve Bag Co.
TOLEDO, OHIO

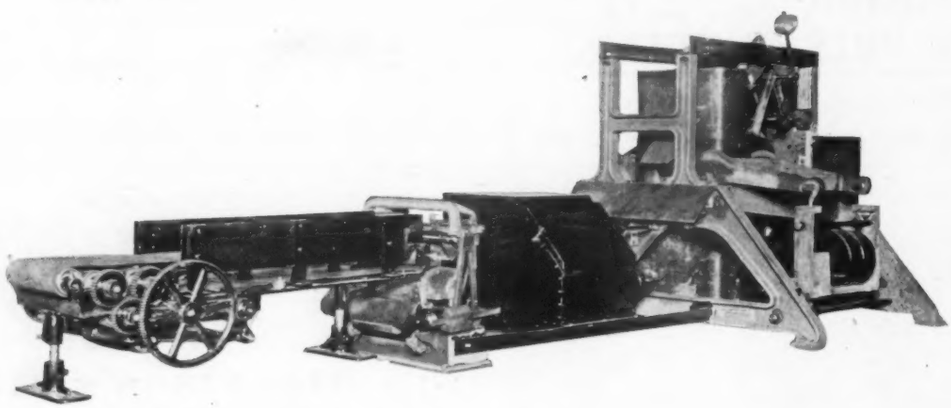
When you have looked over all the advertisements in this issue of

ROCK PRODUCTS

and you still don't find what you want drop a line to

ROCK PRODUCTS

Information Bureau
537 SOUTH DEARBORN ST.
CHICAGO - ILLINOIS



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CLINKER AND GYPSUM

Your chemist, with this machine, will give the desired result

AUTOMATIC WEIGHING MACHINE COMPANY

134 to 140 Commerce Street, NEWARK, N. J., U. S. A.
439 Pierce Building, - ST. LOUIS, MO., U. S. A.

Improved
Modern
Lath

TRADE MARK
J.B. KING & CO.
FIBROUS PLASTER BOARD
DIAMOND BRAND
NEW YORK
REGISTERED IN U. S. AMERICA

Fire-Proof
Insulating
Sound-Deadening

King's Fibrous Plaster Board

Standard Size 32' x 36'

THE RESULT OF "TRADE DEMANDS"

STRENGTHENED to stand the GREATEST STRAIN to which such material is subjected
TOUGHENED to a woody consistency to stand NAILING AND HANDLING

SHIPMENTS made to dealers of STRAIGHT OR MIXED CAR LOADS

KING'S FIBROUS PLASTER BOARD

CALCINED PLASTER
MOULDING PLASTER
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NEAT WALL PLASTER
SANDED PLASTER
MARBLE DUST

PLASTER BOARD NAILS

SERVICE The location of our works at the greatest railroad terminus in the East and our several warehouses enable us to make **Prompt Shipments at all times.**

J. B. KING & CO.

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WAREHOUSES:
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WORKS:
New Brighton, Staten Island,
NEW YORK

An Open Letter

It Speaks Volumes! Read It.

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The Logical Lathing Material
The Best in Hard Wall Plaster

L. P. BUTTS
FERTILIZERS, BUILDERS AND MASONS SUPPLIES
DISTRIBUTOR OF PORTLAND CEMENT.

United States Gypsum Co.,
Chicago, Ill.

ONEONTA, N.Y. November 1, 1911.

Gentlemen:

You will undoubtedly be interested to know that the new "Oneonta" Hotel has been formally opened and doing a satisfactory business. You will also be pleased to know the results obtained from the U. S. Gypsum Wall Plaster used in this building.

The total amount of base coat was in excess of one thousand tons, and U. S. G. Universal Finish was used throughout for the finish coat and gave the best of satisfaction, as well as the first coat, and has caused a great deal of favorable comment.

The writer obtained this contract in competition with several other of the best brands of Wall Plaster made and both the contractor and the owners feel highly gratified by the results of this material.

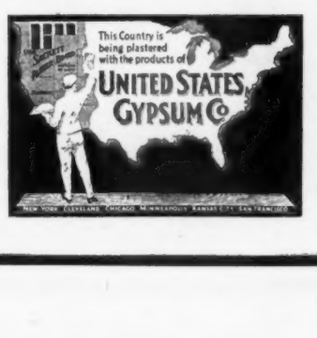
We also used in the construction of this building eight carloads of U. S. G. "Pyrobar Gypsum Tile" for the fireproof partitions, which we were able to have accepted on account of their superior quality after other Gypsum blocks had been delivered on the job for this work. I consider the selection of your Pyrobar speaks very highly of its superior quality.

This work was a source of great satisfaction to me and I trust the same to you also.

Yours very truly,

L. P. Butts.

U. S. G. Products—
"The Line of Progress"—
Arms the U. S. G. Dealer
with Supremacy in Business-
Pulling Power.



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Wall Plasters Have Greater Covering Capacity, Work Smoother Under the Trowel and Have Greater Final Strength

Niagara Neat Cement

Niagara Sanded Mortar

Niagara Wood Fiber (Wood Pulp)

in 100-lb. Jute Sacks and 80-lb. Rope Paper Sacks. Mixed Car Loads of Wall Plasters, Hydrated Finishing Lime, Plaster Board, Land Plaster and Calcined Plaster for Finishing Purposes. These Products Mean Money to the Dealers in Builders' Supplies. Write today for prices.

NIAGARA GYPSUM COMPANY

BUFFALO, NEW YORK

Dakota Plaster Co.

WE MAKE THE FAMOUS

"Black Hawk"

AND

"Dacotah"

Hair and Wood Fibred Plaster

Our Plaster is pure white; uniform in color; carries more sand, works easier and makes the hardest wall. Our Mill is thoroughly equipped with the most modern machinery, and we are always in a position to make prompt shipment. We guarantee every sack of our plaster.

Dakota Plaster Co. Rapid City, S. D. Black Hawk, S. D.

CUMMER CONTINUOUS PROCESS

FOR

CALCINING GYPSUM

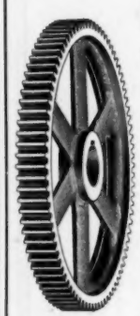
NO KETTLES USED

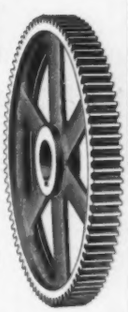
PLANTS IN OPERATION

Great Saving in Cost of Manufacture and Quality of Product Guaranteed.

The F. D. CUMMER & SON CO., Cleveland, O.

Nuttall Gearing





is a money saver the moment it is placed in operation

Each Nuttal gear is designed to suit the peculiar conditions under which it is to operate. Our orders for Gear and Pinion material are of sufficient tonnage that the material maker is justified in conforming exactly to our rigid specifications. Superior quality and uniformity of material are thus assured.

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When in a hurry, wire us.

PLYMOUTH PLASTER
WOOD FIBER PLASTER
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PARTITION BLOCKS
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STEEL STUDDING

THE QUALITY BRANDS

WRITE US FOR PRICES AND ADVERTISING MATTER

Plymouth Gypsum Co.

Fort Dodge, Iowa

PEERLESS

means without an equal and that is what our products are beyond the shadow of a doubt.

Peerless Plaster-Board

The Best on the Market To-day

Peerless Plaster Board has no superior on the market today. Strength, durability, and uniformity in thickness with clean cut edges are its chief virtues.

Peerless Plaster Board finished with **Peerless Plaster** make a Peerless Wall. Builders' Supply Retailers say it is the best Plaster Board manufactured. If you are "from Missouri" write us today for sample and prices.

Write today for our
PEERLESS PROPOSITION

Peerless Cement Plaster
Peerless Wood Fibre Plaster
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Peerless Ready Finish
Peerless Portland Stucco
(Exterior Plastering)

We Ship Mixed Cars of Plaster and Board

Peerless Plaster Board comes in sheets 32 inches by 36 inches.

Peerless Plaster Board is a fire retardent and an efficient sound deadener.

Peerless Plaster Board is a non-conductor of heat and cold.

Peerless Plaster Board is an insurance against cracks, buckles, and lath stains.

Get in line with
THE PEERLESS LINE
WRITE TODAY

M. A. REEB, : Buffalo, New York

THE NATIONAL RETARDER CO.

Mills at
Webster City, Iowa
Port Clinton, Ohio

Successors to

The Chemical Stucco Retarder Co.
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The same standard quality of retarder will be produced and marketed by the same people at the right price—only a change in name of corporation.

MAIL ORDER TO NEAREST MILL FOR PROMPT SERVICE

Structural Tiles

IN ALL USEFUL SIZES FOR EVERY KIND OF BUILDING

Now Booking Orders for Spring Delivery

FOR DWELLINGS—These tiles combine the long needed essentials of perfect adaptability to every kind of decorative treatment, very high fire resisting value, and extreme low cost as well as economy at the job. With them a permanently sanitary home is built—this cannot be done with any other material.

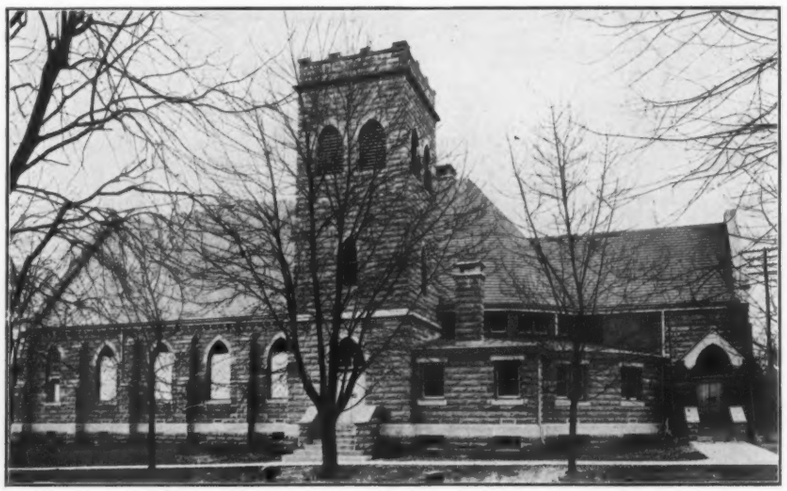
COUNTRY ESTATES AND FARM BUILDINGS—Economical improvements that show up, for every dollar of the cost is obtainable only with this greatest concrete product.

PLASTERED EXTERIORS—A Perfect Plastering surface is provided in concrete tile walls for the spreading of plaster or stucco with absolute certainty of securing strong adhesion of the materials.

CONTRACTORS WHO USE OUR TILES EASILY UNDERBID COMPETITION

Chicago Structural Tile Co.

537 South Dearborn Street, - - CHICAGO, ILL.



The above church was built by the National Hydraulic Stone Co., Mottu and White, Architects, who say: "The density of the Hydraulic rammed Concrete block of which the Wallbrook church was built is very satisfactory. We plastered directly on the block, decorated in water color and moisture has never penetrated the wall. We recommend your Concrete in the most elaborate buildings."

Cheer Up!

Your troubles with Water Soaking Blocks are past.

We guarantee to make Strong Dense Non-absorbent Concrete Blocks cheaper and better than any Concrete Building Product you have ever seen made.

Why?

BECAUSE We ram a wet mixed Concrete by powerful Hydraulic blows. We supply the Cement at the time of mixing with sufficient water to produce perfect initial setting and the aggregates driven together held by suction permit perfect bonding. We follow these principles

This Machine does the work. We lead, others follow. We build your business and make you money. We equip your plant with machinery and all the attachments complete.

Our Machine makes 1000 blocks per day under powerful Hydraulic ramming of a wet mixed Concrete. No skill labor required.

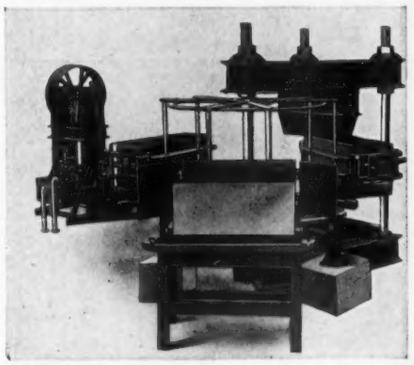
Two men make more blocks with our system, than four men using any other machine.

We make any style and shape blocks—and don't be misled for we make hollow block-angle blocks—veneering slabs face down in any design from the size of a brick up to the dimension stone.

We guarantee the machinery and sell it on its merits.

Before purchasing write us—or better still come and see and be convinced.

The
Fisher Hydraulic Ramming Machinery
1109 Kilburn Ave. Rockford, Ill.



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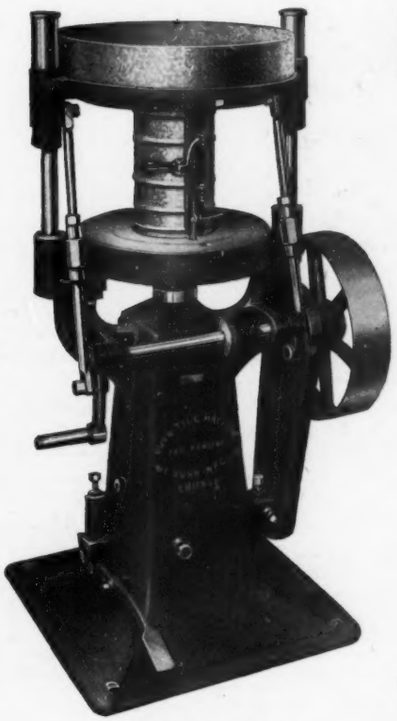


PRICE $175.00

MANUFACTURE CEMENT TILE

AND MAKE $22 A DAY PROFIT

By putting in one of these machines you can get the business in your town. The profit in making tile for your vicinity will soon pay for one of these machines. One man made enough in 12 days to pay for his.

With this machine you don't have to invest a large sum of money. You don't require a large force of men, because one man with material mixed will turn out 1,000 tile in eight hours. Two men will double this output.

DUNN TILE MACHINE

is built on the only correct principle. Broad solid base—cast in one piece, eliminating all vibration. All main bearings have bronze journals. Steel gears that run in oil. All the simple, necessary machinery is enclosed in the dust proof base. It makes all size tile from 3 to 12 inches, and makes them perfect.

MAKE TILE ON IT 15 DAYS BEFORE YOU ACCEPT IT

If it doesn't make good on every claim, ship it back at our expense. You pay us nothing. We don't want your money until we know you are satisfied.

SEND FOR BIG CATALOGUE. It tells all about this machine and our 15 days free trial offer. It gives the cost of making tile, the profits, etc. It also describes a score of other good, reliable, modern machines.

Get this book before you buy a Tile Machine, Block Machine, Brick Machine, Mixer, Chimney and Porch Molds and Sewer Pipe Molds. It will save you money.

W. E. DUNN MANUFACTURING COMPANY

4130 Fillmore Street - - CHICAGO, ILL.

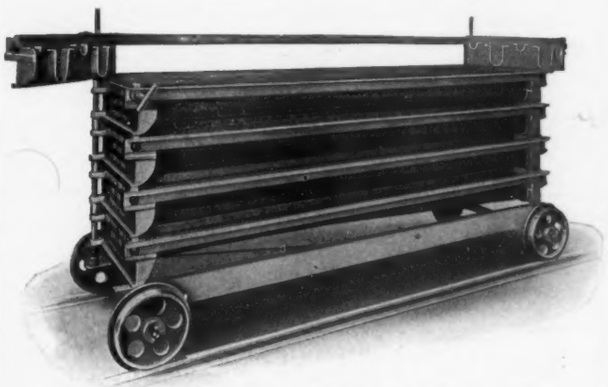
CONCRETE FENCE POSTS

T SHAPE MAKES THEM

STRONGEST, LIGHTEST, CHEAPEST

Used by leading railroads and interurbans

Our system is absolutely the only way for making "wet mixture" posts economically. Write for our catalog.



30 and 20 poured posts made at one time in our batteries. Above shows posts and molds in top section removed and end frames thrown back on hinges. We guarantee every mold. Write for our catalog at once.

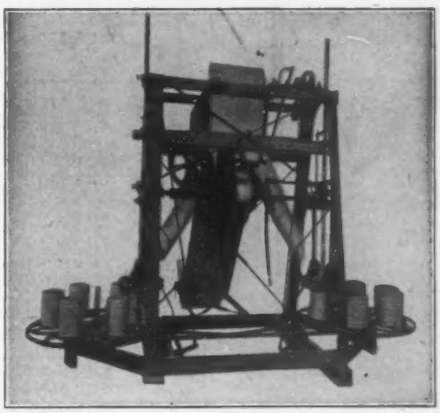
OHIO POST MOLD CO.

1348 Nicholas Bldg., TOLEDO, OHIO

See our exhibits at the New York, Chicago and Kansas City Cement Shows

THE

McCracken Double Tile Machine



The McCracken Double Tile Machine makes all sizes of cement tile from 4 to 16 in. in diameter at the rate of from 10 to 20 tile per minute. Also makes building blocks or construction tile 8x8x16 at the rate of 2000 to 3000 per ten hour day.

The machine will make two different sizes of tile at the same time or building blocks and tile at the same time, or either end of machine can be used without using the other.

The machine has no cans and runs just as smooth at high speed as when running slow. Takes less labor per 1000 tile than any other machine.

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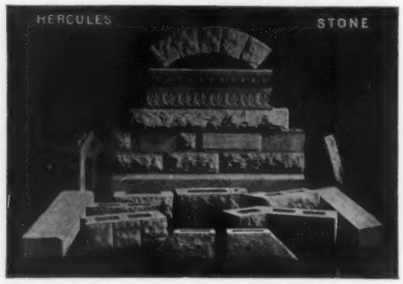

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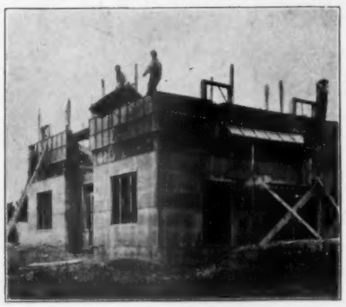

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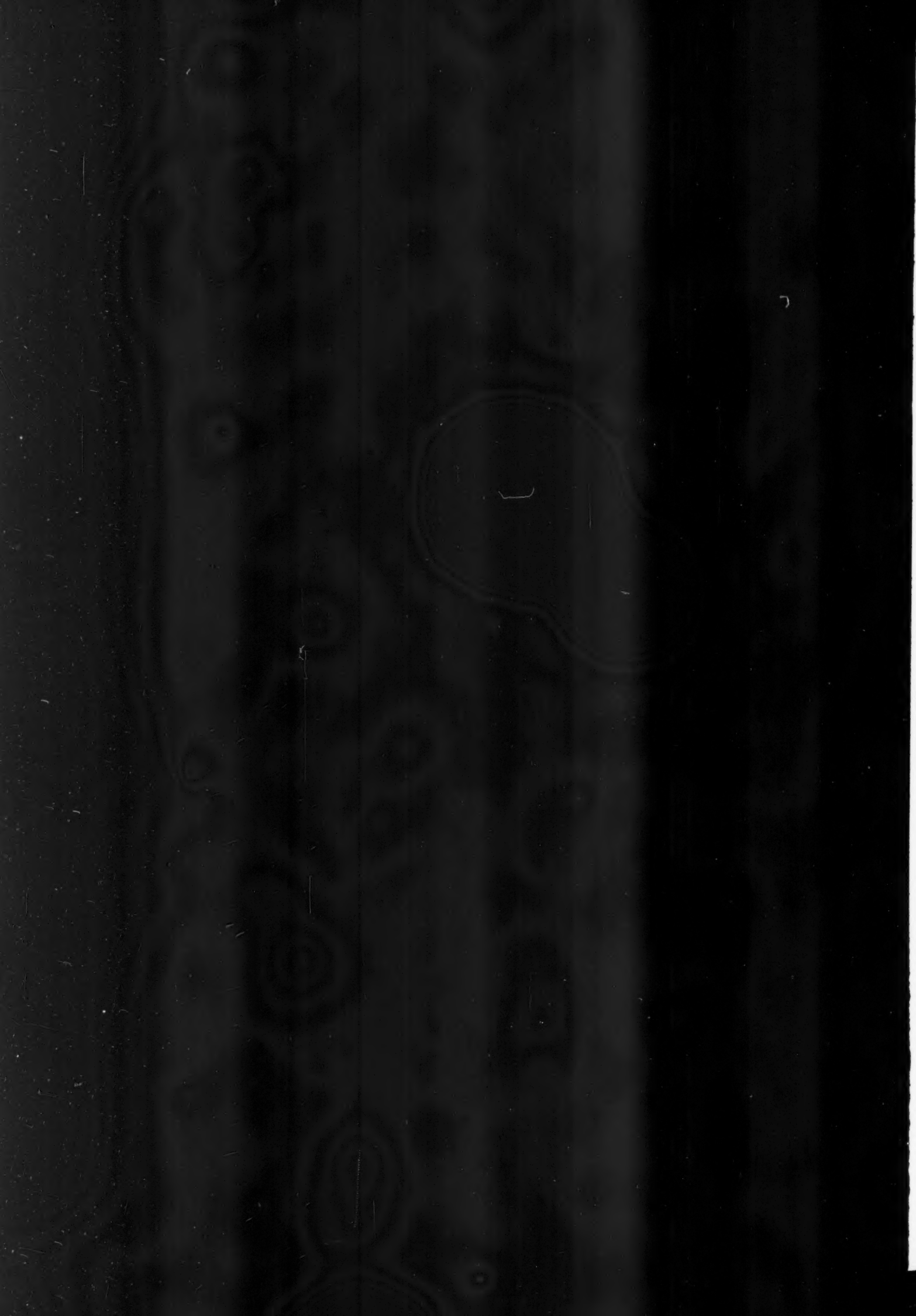

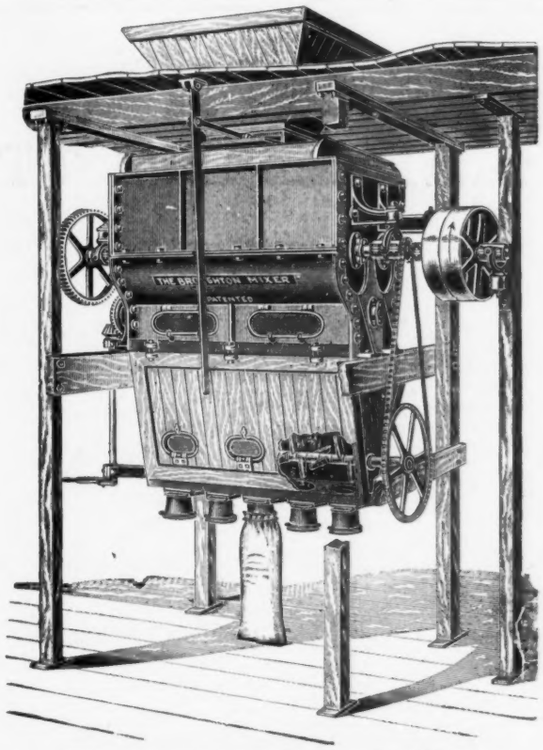

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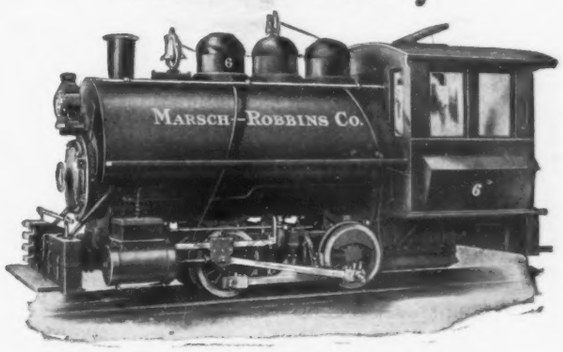

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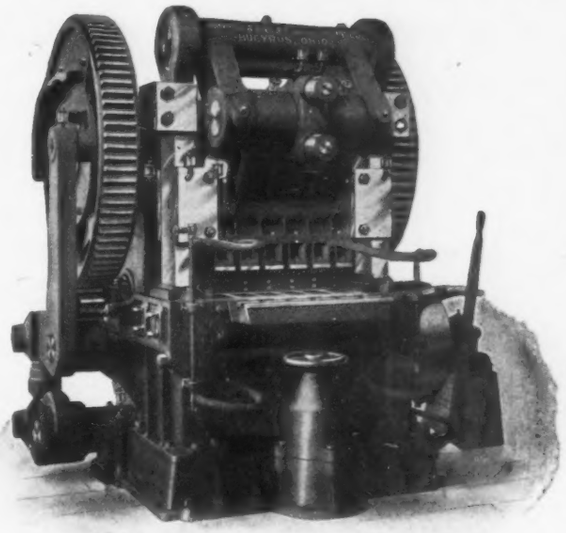

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